



THE MODERN HOSPITAL

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COMMITTEE ON TRAINING OF HOSPITAL EXECUTIVES ISSUES MOMENTOUS REPORT*

IT IS becoming increasingly clear that the hospital has an important role in community health activities, in education of the community and the professional groups and in forwarding our knowledge of disease and its prevention. Present methods of meeting the demand for properly qualified hospital executives are quite inadequate. Reacting to this general situation, a conference of representative groups from various parts of the United States and Canada was called together by the Rockefeller Foundation early in 1920 to consider the problem and to suggest a feasible method of dealing with it. After considerable discussion, the conference appointed a Committee on the Training of Hospital Executives to make appropriate recommendations. This committee assembled and reviewed the available literature on the subject and decided that a further direct study of contemporary hospital practice, organization and tendencies should precede any recommendations, and an executive secretary was secured to make such a study. The following report represents the result of the inquiry.

The committee feels that the report presents a reasonable basis for training hospital executives and for attracting into the field a group of individuals with proper qualifications for the work, and recommends that a course or courses of training of this general character be inaugurated under university auspices.

Report of Secretary

This report is an attempt to present a composite picture of the American hospital and to

suggest a basis for training hospital executives. It is necessarily theoretical in character and represents the results of inquiries into a number of representative situations in various parts of the country, conferences with individuals acquainted with the problems involved and a digest of considerable literature pertaining to the field and to the principles involved.

At the present time there are between 7,000 and 8,000 hospitals of over 10 beds in the United States, having a total bed capacity of almost 700,000. Over 80 per cent are institutions of 100 beds or less, about 40 per cent of 25 beds or less and 75 per cent of all the hospitals of 500 beds or more are institutions for nervous and mental diseases. More than 40 per cent of the total number of beds are in these last named institutions although they constitute less than 10 per cent of the total number of hospitals. About 70 per cent of all the hospitals are in communities of 50,000 or less and 56 per cent of the counties of the country have no hospital facilities, although the bed occupancy in hospitals devoted to relatively acute conditions averages only 67 per cent.

The functions of a hospital fall logically into three major groups, with appropriate sub-divisions, and these functions are applicable to all activities within the organization—medical, nursing, social service, dietetic, laboratory, administrative and others.

Service to the patient is the major function and includes adequate care and every reasonable attention to his physical and mental comfort. It includes prompt, accurate laboratory, x-ray and other determinations and an interpretation of the social-economic environmental factors which may be contributory to the individual problem. A reasonably accurate diagnosis and a logical, skillful

*An abstract of the report of the Committee on the Training of Hospital Executives, appointed by a conference on this subject called early in 1920 by the Rockefeller Foundation. Members of the committee were: Dr. David L. Edsall, Dr. W. L. Babcock, Mr. John G. Bowman, Miss Elizabeth Flaws, Dr. S. S. Goldwater, Miss Annie W. Goodrich, Prof. Paul H. Hanus, Rev. Charles B. Moulinier, Dr. Frederic A. Washburn and Dr. Willard C. Rappleye, executive secretary.

treatment should follow an evaluation of the facts and data secured. To render the treatment most effective, a follow-up and after-care function which aims at convalescent care, reeducation and readjustment of physical or mental activities to secure promptly the highest degree of recovery and economic usefulness is necessary.

With proper safeguards, the hospital should have its entire facilities and personnel available for service to the community and to the practicing professional groups of the neighborhood, whose interests and those of the community in health matters are in large measure identical. Many of the present problems of medical and nursing practice are identified with the non-availability of hospital, laboratory and treatment facilities in small communities and with a denial of similar facilities to a considerable portion of the qualified practitioners in the cities.

The hospital in the broader conception should provide much of the education of patients and community formerly devolving upon the family physician.

Every hospital has the opportunity and an obligation to train hospital personnel, laboratory workers, social workers, supervisors, dietitians, physicians, nurses and others. Cooperative medical and nursing practice of some form, based upon the personal relationship of physician, nurse and patient and the responsibilities arising from such relationships, seems not only desirable but inevitable. Educational work in that direction can be done by hospitals, cooperating with the professional groups, better than by any other agency. The medical staff by proper organization can be readily converted into a graduate-practitioner training center with great benefit to the individual, the profession and the community. The contacts of this group and the medical centers in the neighborhood are only a natural development. Similar organization of the other professional groups is equally feasible and desirable.

The attitude of investigation and research should be developed in every hospital; it is fundamental to sound progress.

The hospital may then be defined as a community organization which provides facilities and personnel for rendering the highest possible grade of health services to patients, professional groups and the community; for educating the community to demand and support adequate health services and sound health policies, for educating additional personnel and professional groups in technical fields and in cooperative endeavor; and for advancing our knowledge of disease and its prevention through technical research and appropriate organization.

The plan of organization to execute these complex functions must be developed to secure the highest efficiency of performance at a minimum of effort and cost. The chief function of administration is to create an environment conducive to the spontaneous, creative expressions of the groups working within the organization and to relieve the professional workers as much as possible of non-professional and non-technical duties; to provide, then, the facilities and machinery by which the fullest expression of functions may most easily be obtained.

Hospital Organization

The unit of operation of the hospital about which the whole organization should be built, upon which all activities must ultimately converge and constituting the reason for the existence of the hospital and professional groups working within it, is the patient. Only through him and contacts arising therefrom can the hospital find its fullest expression of service. A patient in the last analysis is only a human being either with or threatened with incapacity, physical or mental. He represents the cross section of a human life and as such is the resultant of many forces in the past—hereditary, industrial, environmental, economic, social—which may have conspired to predispose or contribute to his present condition. It is frequently quite as necessary, then, to understand and to interpret these human and social factors as it is to appraise technical and biological factors in order to secure a correct diagnosis, to guide treatment intelligently and to propose methods of prevention. The administration of a hospital under this conception must necessarily be based on the community as the unit of operation, not the institution.

The hospital organization requires a governing board in which must ultimately rest the responsibility of policies and their execution and the appointment of heads of professional services. On such a governing board should be represented a diversity of interests and a group of people acquainted with the community to be served, who have qualifications for the position, a willingness to assume responsibilities devolving upon such a board and who know the essentials of sound administration.

The hospital executive should be the executive officer of this governing board, furnishing it with information upon which sound programs may be formulated and carrying into effect the hospital policies so determined. Only a rare individual can do this unaided and various groups advisory to the executive and in contact with the governing board should be created.

An appropriate administrative machinery un-

der the hospital executive is necessary to execute the complex functions.

A sound organization and adequate functioning of the administration alone are insufficient. The medical staff and other professional groups must be coordinated under proper leadership to secure the best possible treatment of the patients, to facilitate education and investigation and to permit of the soundest advice in matters of policy and community service. The growing tendency to fix accountability for professional and hospital performance necessitates the organization of individual responsibility and a method of securing collective expression of policies and standards.

The hospital executive, as executive officer of the governing board, stands between the policy determining body and hospital work and closely in contact with the professional groups. Such an officer should be able to interpret community needs, the methods to be devised to meet them, the objectives sought, the fundamentals of sound organization and administration, and be able to mobilize and direct the self-expression of diversified activities toward a common goal. The position of the executive must be clearly defined and he must be held responsible and be given commensurate authority for the performance of the duties indicated. The theoretical position of such an executive carries with it a dignity and an influence for good which challenges the highest degree of imagination and ability.

The present somewhat general conception of a hospital as a hotel for the sick with the superintendent an exalted steward or clerk, with little voice in shaping policies and less responsibility in executing them, does not attract executives

of the grade suggested. The result is a natural lowering of the rewards, dignity and opportunities of the position, consequent penalties and the establishment of a vicious circle. It seems clear that there is a great undeveloped field in organization of community health services and the need can apparently best be met by the elaboration of our present hospital organizations which embody most of the essential elements. Placing the hospital executive in a position of real responsibility

and authority in such a scheme and aiming at a group of properly qualified individuals to meet such responsibility and opportunity where it arises will present sufficient challenge to insure a response both in personnel and the rewards for such valuable services.

Executive Training

Most of the present hospital superintendents have either drifted into the work without special training or have come up through a system of apprenticeship. The former method is probably partly responsible for the present confusion and for the apparent failure of hospitals generally to measure up to the opportunities and responsibilities open to them. The latter plan has rendered an excellent contribution but represents a method of preparation for professional work now largely abandoned in other fields. Education in

general has passed through the phases of apprenticeship, didactic instruction, demonstration instruction and is now evidently entering a phase of disciplinary training. Preparation for hospital administration can probably be readily adapted to this method.

The large proportion of hospitals in the United States and Canada are institutions of one hundred beds or less and as they are now conducted

The growth of a sense of community responsibility in matters of health is leading to a demand for coordination of the diversified activities and professional groups concerned with these problems.

The hospital represents in general the common ground of most of these activities and groups and a type of organization which may readily be adopted to the functions of coordination, education and service.

It occupies a strategic position in the whole field of community health, and provisions for the adequate training of hospital executives would constitute a fundamental contribution to the entire program.

Such a training must necessarily cover too wide a range of activities for any one individual to master, and it should be largely devoted to providing opportunities for those of high ideals, ability and proper qualifications to secure a fund of sound knowledge and a properly supervised disciplinary training in the administration of hospital functions. It should consider the development of personnel and the furthering of our knowledge of organized community efforts looking toward the conservation of health and the prevention of disease as fundamental to any plan of training.

cannot, for financial and other reasons, attract executives with the highest qualifications. But an elaboration of our present conception of a hospital to that of a community function and the co-ordination of a number of health activities under a central policy-determining organization should create a demand, offer ample opportunities and provide adequate rewards for leaders of the highest ability. This change will be gradual and provisions must be made and continued for developing superintendents of small institutions since these institutions will always play an important role in the program of community health. But the prime consideration must be given to the development of creative thinkers and leaders as directors of coordinated programs of community health services.

Preliminary Requirements for Training

The development of leaders is more a matter of selecting promising individuals and of providing opportunities for them than it is designating and giving any preconceived instruction. The foregoing discussion gives some idea of the activities of an executive and of the duties which he is expected to fulfill. The need of judgment, poise and temperamental fitness are indicated in a preliminary requirement which may be spoken of as maturity, though not synonymous with age. The complexity of the problems and the various fields of contact of the hospital demand of an executive a mental training and general fund of information which may be suggested by an educational requirement.

With proper elasticity in interpretation, a university degree or its equivalent should be prerequisite for the training. While it may not be possible to prescribe the content of the preparation, it obviously would be desirable that it include the elements of such subjects as biology, psychology, social science, physiology, bacteriology, chemistry and physics. Those with medical training and a fund of knowledge, aptitude and ability in administration have the greatest opportunity to contribute to the broad program. These requirements are in themselves insufficient without evidence or promise of executive capacity as such, the imagination to visualize programs and policies distinct from details, ability to manage personnel and groups and to act upon as well as to make wise decisions.

The subject matter of a "course" in hospital administration is entirely subordinate to the qualifications, ideals and ability of the student, yet obviously the executive must have relative knowledge of the various activities in the field and such knowledge is best secured through ac-

tual training. What may be designated as an elementary or basic course could be designed to present the objectives, ideals, function, organization, contacts and general features of hospital administration, serving at the same time as a method of learning the aptitudes as well as the limitations of the student. Such a training should embrace theoretical and practical work in hospital-community health problems. An intermediate course can well be provided for those who, for one or several reasons, will not take a full course of training. The major concern and the greatest contribution, however, should be in advanced work by and with a group of properly qualified individuals with vision, adequate training and industry, who can be developed into a group of leaders and investigators in the field of community health.

The length of these various phases of a common course must be determined in part by the subject matter to be covered and by practical considerations of the student and the field to be served. Concensus of opinion is that the basic course should probably be not less than twelve nor more than eighteen months. Since it requires about four months to cover adequately a period of practical instruction in hospital operation, and a period of two months should be allowed for visiting other institutions and for final conferences, a total period of fifteen months seems to be the optimum length of the basic course, allowing a full nine months (corresponding to a university year) for the theoretical-demonstration work. Possibly additional work in summer session should be given.

Subject Matter for Basic Training

Without attempting to set up a schedule of subject matter, the following list of major topics for the theoretical training is given largely in an attempt to present something concrete and to designate the relative importance of each for a symmetrical preparation for hospital administration. Since individuals with different training and experience may become students if such a course should be established, it is necessary to have considerable latitude in schedule to permit of substitutions and electives. Some elasticity should also be permitted to allow expression of features particularly well developed at any place where such training might be given or to fit peculiar aptitudes of certain students. The schedule suggested is not given as a curriculum but may serve as a basis for qualification to do advanced work or for completion of the elementary course. Under each major topic are placed a few random suggestions as to the ground to be

covered by such topics without any attempt to present a complete subject matter.

I. Public Health (20%).

Major disease groups, their causes, methods of treatment and prevention.
Communicable disease control, community, institutional.
Social factors in disease, ignorance, poverty, vice.
Vital statistics, hospital statistics.
Statistics of morbidity for community, patient's records.
Health insurance, sickness insurance, contract medicine.
Mental hygiene, delinquency, relation of crime to mental diseases.
Community sanitation and hygiene, application of principles to hospital.
Industrial hygiene.
Relation of hours of work, sleep, diet, fatigue and normal physiology to health and disease.
Activities of public health departments, state, national.
Organizations in field of public health, their aims, ideas and operation, group medicine, visiting and public health nursing, etc.

II. Social Sciences (15%).

General definitions, principles, history.
Standards of living, poverty, education, recreation, unemployment.
Urbanization, causes, results of concentration of population.
Principles and agencies of relief, voluntary, governmental, local.
Health as a sociological problem, responsibility of government for health protection.
Rural problems, factors relating to health.
Principles of community organization, political science, economics.
Tendencies in sociology.
Publicity.
State medicine, problems incident to it.

III. Organization (15%).

Fundamentals of organization, responsibilities, governing boards, machinery for administration.
Internal hospital organization, departments, advisory groups, delegation of activities and responsibilities.
External contacts, agencies of the community, professional groups, political machinery.
Correlation of laboratory, x-ray, radium, social service, nursing, dietetics, ambulance service, visiting nurses, operating rooms, out-patient department, follow-up and after-care services, etc.

IV. Hospital Functions and History (10%).

History of medical and nursing practice, traditions and education.
Present tendencies in medicine and nursing, various suggestions to meet problems.
History of laboratories, social service, dietetics, special therapies, their relationship to each other and to other activities.
History of hospitals and their tendencies, foreign and American.
Position of hospital in community activities, present conception, tendencies.

Functions of hospitals and modifications of such functions.

Methods of care of sick, hospital and other methods.

V. Business Science (10%).

Definitions, theories of production and distribution.
Distribution of industrial risks, insurance of various kinds.
Cost accounting and interpretation, elements of bookkeeping.
Budget making, various types of accounts, collections.
Purchasing and selling, financing of capital and maintenance charges of hospitals.
Various forms of revenue, endowments, sustaining funds, community chests, state or municipal support, contributions, bonds, trust funds.
Records of performance of departments, office records and reports.

VI. Institutional Management (10%).

Principles, definitions, purposes, lines or responsibility and contact, management of departments such as kitchen, laundry, engineering, office, units of the hospital, storeroom, house-keeping, etc.
Economics and methods of curtailing expenses of operation.

VII. Personal Administration (5%).

Labor problems and labor management.
Psychology of work.
Efficiency, rewards, methods of increasing responses of workers.
Functions of labor in production.
Handling professional groups and departments.

VIII. Community Hospital Needs (5%).

Classification of hospitals.
Needs of the community for medical and nursing services.
Needs for hospitals and dispensaries, for various types of hospital beds, determining factors of industrial and social life, area to be served, population to be served, living conditions, etc.
Distribution of hospitals and their size, relative to present and probable future demands.
Other facilities in community for medical and nursing care.
Support in sight for an adequate program.

IX. Physical Plant (5%).

Location, construction, ventilation, heating, lighting, refrigeration.
Maintenance, alterations, repairs, equipment, depreciation, fuel consumption, etc.

X. Jurisprudence (5%).

Elements of contracts, testimony.
Responsibilities of and legal requirements for the practice of medicine and nursing.
Legal responsibility of hospital in matters of autopsies, accidents, compensation, operations, laboratory findings, professional care.
Principles of privileged communications.
Professional testimony.

At the completion of this academic-demonstration-conference period of nine months, six months of practical work should follow under educational supervision, the first four months to be spent in

one hospital and the major part of the last two months to be spent in visiting hospitals of different types, sizes and organizations with the aim of learning adaptations and modifications which are necessary to meet different situations. A final period could be best spent in a seminar of interpretation conferences and discussions. This whole course should not produce a finished hospital executive but should provide a reasonably good background for future development either in the field of practical hospital and community health administration or for more advanced work in health economics.

Opportunities for Present Superintendents

Methods of stimulating and helping the large number of hospital superintendents now on the field will tend to elevate the entire level of health service. Provisions in a training center of promoting activities of this character would be highly desirable and helpful both to the field and to the center. Possibly some of these efforts and some of the activities described under research may be better delegated to some other organization in more intimate contact with the entire field, but somewhere there should be provided short courses, possibly some of them as segments of the regular basic training, unit courses, institutes of various kinds and the presentation of special courses for special purposes. The recent rapid development of university extension work and the promise which it brings opens another avenue for stimulating and helping executives now on the field. Such activities, however, cannot be used as substitutes for sound, broad training and should be developed with a proper understanding of their purposes.

The usefulness and very existence of any possible training center will be both measured by and dependent upon the spirit of investigation. Research activities must be inseparably identified with such a center if it is to realize the fullest conception of its function. The training and research should be developed as reciprocal activities of a single organization to insure mutual stimulation and singleness of purpose.

Specific questions relative to the location of any possible training-research center are beyond the province of this discussion. The aim of developing creative leaders with ideals of service to patients, the community, the professional groups, to education and research suggests the necessity for a proper atmosphere for such a center, conducive to the fostering and furthering of such ideals. The atmosphere, however, is only one factor. The field to be served is practical and isolation to secure an ideal environment might

comprise an eventual program. Wherever located, however, there must be reasonably accessible or likely to be developed in the near future, the facilities, machinery and teaching personnel necessary for presenting the fundamentals of the subjects discussed previously. Such material and personnel are represented for the most part in well established schools of arts and sciences, business administration, medicine, nursing, public health, engineering and where well developed hospitals, dispensaries and social agencies are available. All of these need not necessarily be present in the same city but a close educational supervision must be provided. The training suggested contemplates contribution from a number of sources but of greater importance than the mere contributions are the vision, teaching ability and attitude of those who will have charge of the instruction and supervision. The training should be under university supervision and the immediate direction of an individual of adequate university caliber.

Wherever possible, courses now in existence and present personnel should be utilized. Problems incident to assembling material and mobilizing courses and personnel in several major university and hospital organizations to apply on a comprehensive training program cannot be handled by someone whose time and energy are largely taken up by other activities. The manner of working out details of correlation and administration are matters to be studied in relation to practical suggestions as to where such a training course might be inaugurated. The financial considerations would include provisions for a department head, for administration, assistants and staff, possibly some compensation for personnel to secure and present special material not already available, for expenses of exchange instructors and lecturers, a budget for research, possibly a few fellowships and other incidental expenses.

Any possible training-research center should be effectively articulated with other activities in the local environment and should merge its interests and problems with those of other groups with which it has contact. Such a center may well become a powerful influence in local educational fields in its attempt to translate and interpret individual activities into a large composite program. It may serve later as a nucleus for the training of other groups of executives and leaders in fields allied to community health. In a somewhat similar manner it should be in close contact with national bodies working in the field, with which it must have proper orientation and out of which contracts much of mutual benefit should develop.

THE BEAUTIFUL ANCON HOSPITAL

By COL. L. T. HESS, U. S. M. C., SUPERINTENDENT, ANCON HOSPITAL, CANAL ZONE.

ANCON Hospital is one of the oldest landmarks of the Canal Zone having come into existence in 1883. Through its portals there have passed many thousands of patients. It has been intimately connected with the building of the Canal under both the French and American regimes and is now, as formerly, the hospital where nearly all the civil and military patients of the Canal Zone are sent who are in need of hospital treatment. Many persons from the Central and South American republics seek admission for treatment so that its renown is more than local.

Numerous requests have been received from hospitals, medical schools, physicians and others seeking information concerning the facilities and other matters relative to Ancon Hospital, and their questions suggested this illustrated article. It is hoped that it will be the means of a wider publicity of an old institution which has been proclaimed by many of the medical profession as the most beautiful hospital in the world.

French Built Old Ancon

Any description of Ancon Hospital would not be replete historically without a description of this institution during the French regime and at the time it was taken over by the Isthmian Canal Commission.

The hospital proper was established by the Old French Company which erected the first building in 1883 on a reservation of about eighty acres on the northern and eastern slopes of Ancon Hill which commands an extensive view of Panama Bay, City and surrounding mountains. Ancon

Hill is 654 feet above sea level. The grounds, on the eastern and northern slopes up to the 200 foot contour, were laid out, terraced and graded by the French Company and upon these terraces were erected the several wards and other buildings of Ancon Hospital. The buildings were of frame construction of the pavilion type with tile roofing but unscreened. The hospital was operated under contract in accordance with the terms of which people engaged in Canal construction were treated at the rate of five francs (\$1.00 gold) per day. A result of this system was that very few Negro employes were sent to the hospital and the patients were, therefore, almost entirely white employes.

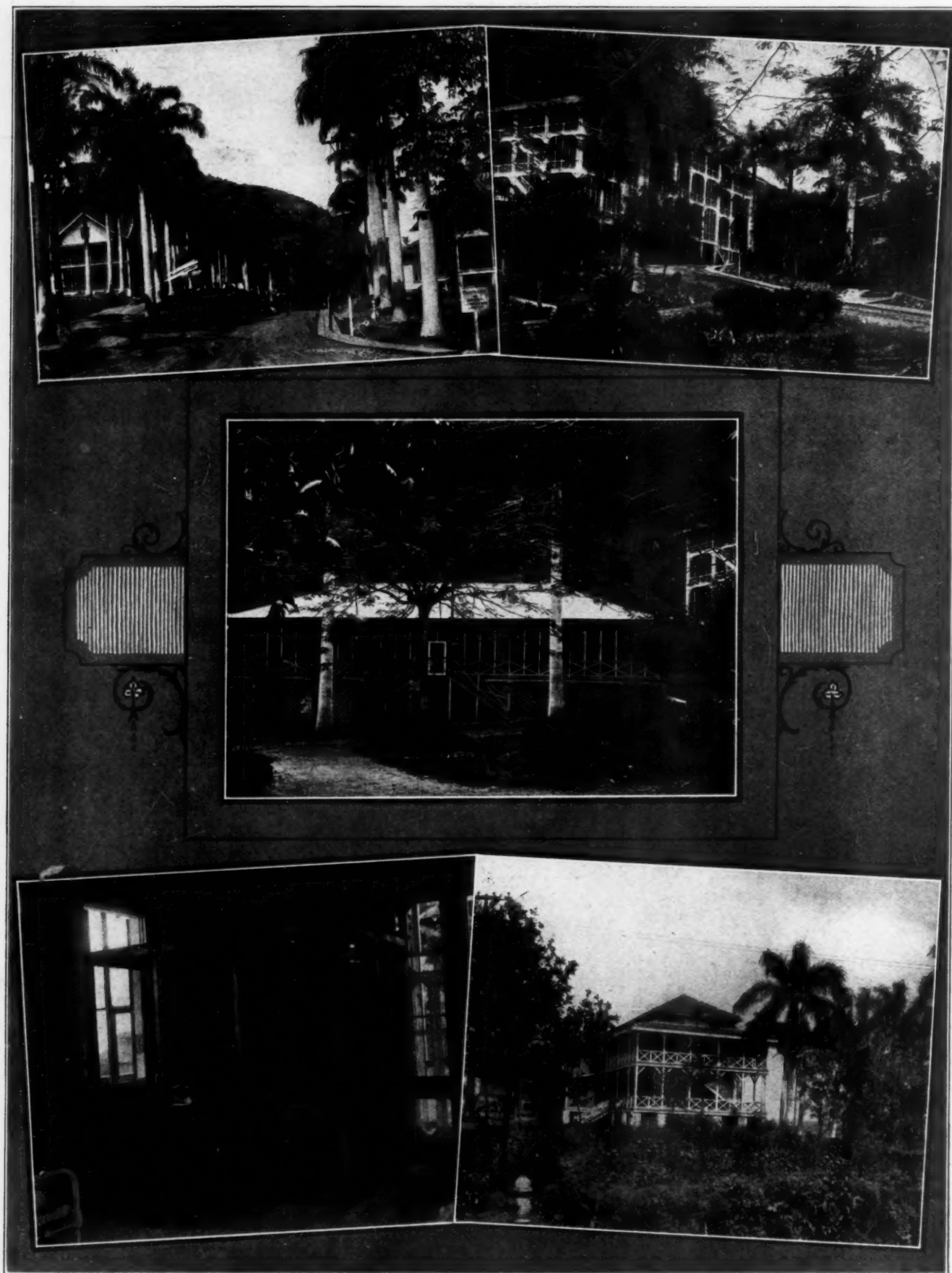
The Old French Company failed in 1889, but left a complete set of records in the hospital which show that from 1883 to 1889 over 5,000 deaths occurred at the hospital, 1,200 of which were from yellow fever. The old yellow fever ward was known as the "St. Charles," within the confines of which hundreds have passed to the "Great Beyond from whose bourne no traveler returns," many of them victims of these dreaded maladies—pernicious malaria and yellow fever. It is believed that more people died from yellow fever in this building than in any other hospital in the world now standing.

In this connection it might be of interest to record the fact that many cases of injury and minor illness admitted to the hospital developed, within a short time after admission, to yellow fever, and a large percentage of them died; in fact it appears that most of the yellow fever cases occurred



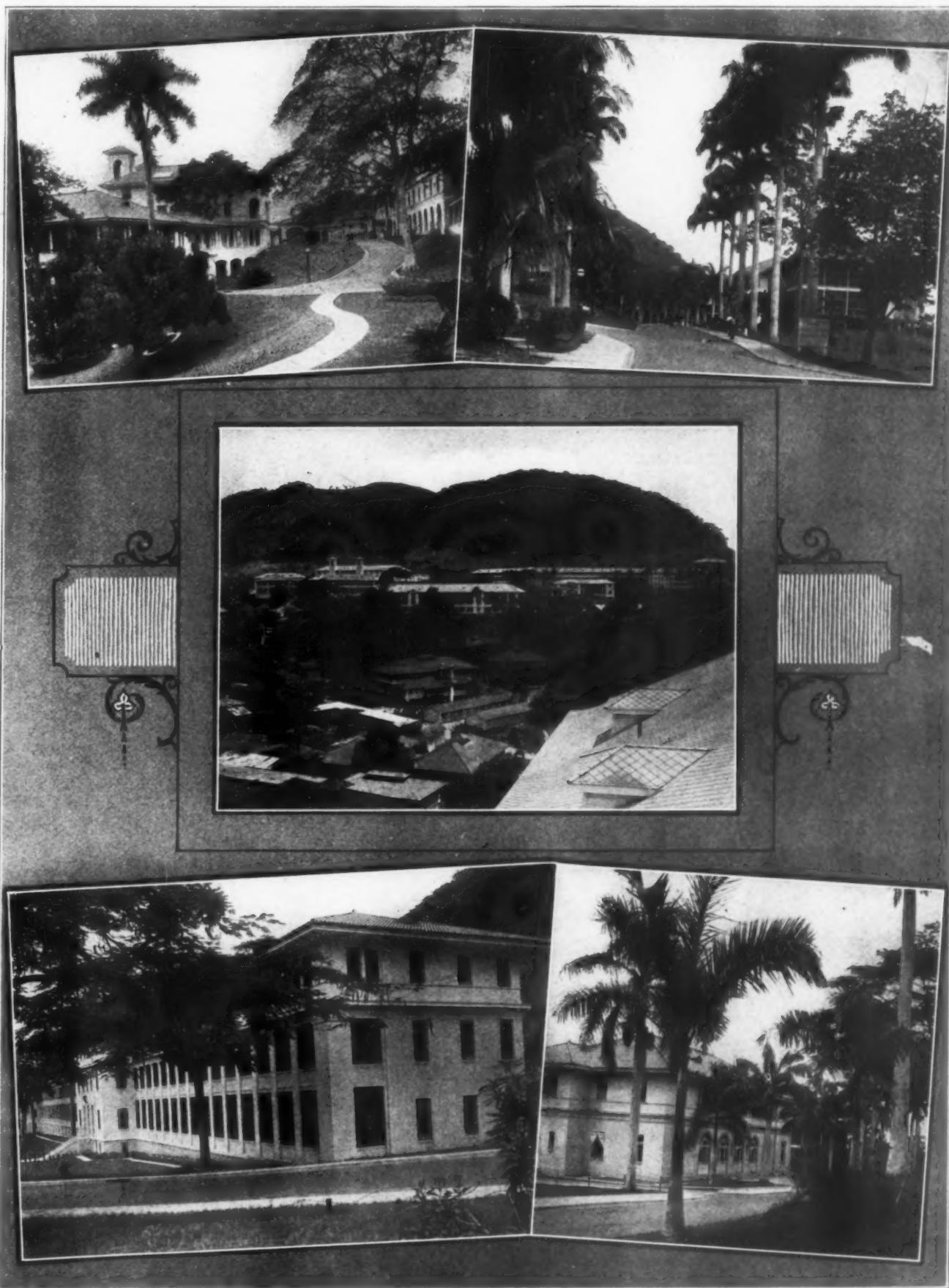
A panoramic view of Old Ancon Hospital showing the general layout of the hospital buildings erected by the French in 1881-1883, when work on the Panama Canal was begun, as remodeled by the Americans in 1904. These buildings were erected on a reservation of eighty acres on the north and northeast slope of Ancon Hill, which appears in the background. The large building at the extreme left is the old Administration Building erected by the Americans and originally intended for the residence of the Governor.

THE OLD ANCON, BUILT BY FRANCE AND REMODELED BY THE UNITED STATES



Stately royal palms border the main road (upper left) to Old Ancon—it is now Gorgas Road; bits of the old hospital grounds (upper and lower right) show the abundance of tropical vegetation; the old yellow fever ward, St. Charles (center), during the French regime; a screened cage within a screened ward (lower left) was Col. Reed's method of fighting yellow fever when the Americans took over the hospital.

OF FAR GREATER BEAUTY AND PERMANENCE IS THE NEW ANCON HOSPITAL



An interior view (upper left) of the new hospital grounds looking between the tall wild fig tree on the left and the mango tree, heavy with fruit, on the right; Gorgas Road (upper right); general view of the hospital from Tivoli Hotel (center); Section D of the hospital (lower left); admitting office and dispensary building (lower right).

among the patients admitted to the hospital so that those who entered did so with fear and trembling.

No doubt many, as in Dante's description of the *Inferno*, bade adieu to all things mundane before they entered the hospital. The reason for this was not discovered until the immortal Reed of the Medical Corps of the United States Army demonstrated beyond any doubt that yellow fever was due to the *stegomyia* mosquito whose favorite habitat and breeding place was in collections of fresh water in vicinity of habitations. It is strange that a noble act and love for things beautiful should result so disastrously to those for whom it was designed to benefit as demonstrated by the following incident.

Sister Marie Rouleau, the Sister Superior of Ancon Hospital, was a lover of flowers, plants and growing things. This propensity on her part, combined with her desire to increase the revenues of the hospital, resulted in making the grounds a veritable microcosm of plant life on the Isthmus. There exists on the Isthmus a voracious ant commonly known as the "umbrella" ant, so called because it carries bits of green leaves, umbrella fashion. To prevent destruction of plants by these ants they were surrounded by a low concrete wall with a narrow, shallow gutter filled with water over which the ants could not navigate. These pools of fresh water were ideal places for breeding the yellow fever mosquito, so that the patients admitted to hospital located in the beautiful flower garden became victims of these disease-producing mosquitoes; hence so many deaths occurred among the non-immune patients admitted to Ancon Hospital.

Was Quickly Remodeled

The Americans took charge of Ancon Hospital in May, 1904, the late Col. Louis A. Le Garde, Medical Corps, U. S. Army, being the first superintendent.

The work of clearing up the grounds and repairing buildings was at once begun. Not more than \$50,000 was spent in putting the buildings in a habitable condition. All buildings were screened, some new ones built and a second story was put on some of the buildings so that within the hospital reservation there were in all ninety-six buildings in thirty-two of which were forty-seven wards with a total capacity of about 1,200 patients.

All the wards had modern equipment of the United States Army standard and were provided with lavatories, closets, showers and bath tubs. The operating room was spacious and the equipment was thoroughly modern and complete as were the eye, ear, nose and throat and x-ray de-

partments so that the old Ancon Hospital, although of wooden construction, when completely remodeled and refitted by the Americans compared favorably with the hospitals in the United States and afforded every facility for up to date treatment of all classes of cases.

U. S. Government Builds New Ancon

The Panama Canal was completed and opened to traffic in August, 1914. Since then the government has expended many millions in development of terminals and in municipal improvement. Most of the construction is of a permanent character—reinforced concrete or semi-concrete and hollow cement curtained wall cement stuccoed or lime plaster.

The most beautiful group of buildings from an architectural point of view is the one comprising new Ancon Hospital. This group of buildings supplants the original French wooden hospital buildings and was erected on an irregular and restricted site crowding the base of Ancon Hill, overlooking the bay and city of Panama, with a beautiful vista of the mountains in the distance.

The style of architecture is a modified Italian renaissance. The plan adopted was isolated "sections" or ward units as far as possible, without departing too far from the economy of central administration, and this idea together with the irregularity of the site fixed the height of buildings at from two to four stories.

Shelter from tropical sun and rain is afforded by wide corridors around all exposed sides of the ward units; also direct inter-communication between the sections or ward units is afforded by loggias and continuous porches, which connect the various wards with the administration-clinics building and the kitchen and mess building.

The construction is of reinforced concrete, with hollow cement block curtain walls and partitions, cement stuccoed outside. All roofs are covered with vitrified Spanish red tile; inside walls and ceilings of concrete and plaster, generally painted with a washable paint. Porches and outside openings are copper-screened against insects. For the most part, all floors are of six-inch red ceramic or white hexagonal tile or cement; the latter for the porches. A few of the offices have yellow pine floors.

The general plan of the five ward groups, exclusive of isolation section, is two wards on each floor with auxiliary rooms between such as visiting room, ward dining room, ward and diet kitchens, cells and quiet rooms, doctors' and nurses' room, dressing room, ward laboratory, toilets and baths, service room, closets, elevator and stairs.

Isolation Section is four stories in height, with a normal bed capacity of 113, and emergency

SCENES ABOUT THE LARGEST HOSPITAL SOUTH OF THE UNITED STATES



The end of Section B (above) is hidden by the Bougainvillea vine in purple bloom; the home of seventy-two nurses (center left); Section C loggia (center right) leading to the dining room, kitchen and administration building; Section I (lower left) is the isolation ward where all contagious diseases occurring in the Canal Zone are detained until cured; a typical ward at Ancon (lower right).

capacity of more than 155. On the different floors are small wards and rooms with separate beds, so arranged that all classes of contagious and infectious diseases can be isolated without any danger of their spreading. It is not an unusual occurrence to have at one time eight or ten varieties of contagious or infectious diseases in this section.

Section "B" is the section for private pay cases, obstetrical, gynecological, and the medical and surgical ward for white women. There are forty private rooms, capable of accommodating forty-five patients.

Administration Building Is Center

The central building of the hospital group is the administration-clinic building, containing the pharmacy and drug manufacturing department, the surgical, medical, eye and ear clinic, the operating pavilion of four operating rooms in suite, x-ray department, administrative offices and record room, library and general assembly rooms; and in the basement it is contemplated to install a hydro-electric-therapeutic department. It is also contemplated in the near future to establish in this building a clinic for the treatment of genitourinary and skin diseases.

Back of the administration building is the kitchen and mess building, where all the cooking and baking for the hospital is done and where also is located a large refrigerating plant. On the upper floors are dining rooms for the convalescent white patients and for the nurses and interns. On the second floor is the dining room for the convalescent colored patients and colored employees of the hospital.

The buildings are all equipped with electric passenger and freight elevators, automatic dumb waiters, fire protection, running hot, cold and ice water, steam, telephones, annunciators, direct and indirect lighting, and the latest in plumbing and hospital equipment throughout.

The hospital, exclusive of the insane department, has a bed capacity of 880 beds, which can be increased to about 1,200 in an emergency.

The entirely detached structures of the hospital are the power plant and shops; admitting and dispensary building, where individuals with ailments not considered serious enough to warrant care in hospitals are treated and prescribed for.

The Board of Health laboratory is designed for research and study of tropical diseases and contains the offices and especially equipped work rooms of the chemist, bacteriologist, pathologist, entomologist, embalmer, photographer, and the library and other offices. An inclosed passage communicates with the crematory.

The nurses' home is a three-story building with

a social hall and individual rooms and porches for seventy-two nurses.

The superintendent's residence is the only permanent building so far erected for the staff of Ancon Hospital. It is contemplated in the future to erect a series of concrete buildings to provide quarters for the rest of the staff.

Largest General Hospital South of U. S.

Ancon Hospital is the largest hospital on the Western hemisphere south of the United States. It is also the only hospital in this region that is able to handle any class of cases, as it has all the modern equipment and apparatus necessary for diagnostic purpose and operative procedure.

In addition to the buildings described above the insane department is located about three miles from Ancon at Corozal. This institution is comprised of a number of wooden buildings, two stories in height, specially adapted for the housing and treatment of insane patients. There, too, are maintained the chronic cases who are able to do a certain amount of work and who do not wish to be repatriated. Cripples, who have been injured in the line of duty while employed with the Panama Canal and who do not desire to be returned to their native land, are taken care of at Corozal and perform such work on the farm, pig-gery and dairy located there as they are able to do. It has a bed capacity of 425.

The total number of admissions to Ancon and Corozal Hospitals during the fiscal year ending June 30, 1920 was 10,393. The average number of patients treated per day was approximately 882.

During the year 1,994 major and 4,831 minor surgical operations were performed. Three thousand one hundred and thirty-four visited the out-patient department of the surgical clinic, for whom 391 prescriptions were written. Three hundred and fourteen obstetrical cases were delivered.

In the out-patient department of the medical clinic 2,611 cases were treated, for whom 1,707 prescriptions were written.

In the out-patient department of the eye and ear clinic there were 7,443 cases for whom 2,606 prescriptions were written. Refractions numbering 967 were made and 976 operations performed.

In the x-ray clinic 3,333 cases were handled, 7,197 plates and 1,708 dental films were taken, and 84 treatments given.

In the dispensary (district physician) 104,737 were treated.

In the insane department at Corozal Hospital 521 were treated.

Ancon Hospital, while a U. S. government institution, is not a military hospital, although all

military and naval persons on the Canal Zone needing hospital treatment are sent there. The superintendent, since it was taken over by the Americans, has always been an officer of the Medical Corps of the U. S. Army.

the means of dissemination of knowledge of hygiene, sanitation and prevention of disease with the ultimate result that all quarantinable diseases will disappear from the western hemisphere, as every patient from South or Central America, in



The imposing entrance to the beautiful Ancon Hospital with Gorgas Road in the foreground. Between the center columns of the connection loggia can be seen one of the towers of the Administration Building.

The professional staff of Ancon Hospital, including the insane department at Corozal, is appointed from civil life with civil service status and consists of thirty-three physicians and six interns, including chiefs of medical, surgical; eye, ear, nose and throat, x-ray clinic and laboratory. All physicians devote their entire time to hospital work and do not engage in private practice.

The nursing service consists of a chief nurse and ninety graduate nurses appointed from civil life with civil service status. In addition there are employed 126 colored attendants and forty-seven maids, mostly Jamaicans, who are trained for nursing service.

Represents \$3,000,000 Investment

The construction of New Ancon Hospital was begun in August, 1915, and completed in June, 1919, at a cost of nearly \$2,000,000. The present equipment represents nearly another million. It has been proclaimed by many as the most beautiful hospital in the world. Americans can well be proud of having such an institution located as it is midway on the western hemisphere, to which all peoples of whatever race, color or condition can gain access for treatment of any disease to which the human race is heir, with assurance that it will be the best obtainable anywhere. It is money well spent and has been, as it will continue to be an important factor in creating a better feeling for us among the Latin-Americans; it will be

in addition to being cured of his ailment, will observe the excellent results of the health department of the Canal Zone in its campaign against disease, a campaign which has converted a "pest hole" of former days into a health resort, from a place where formerly the white men came to die and to a place where he now comes to be restored to health.

This claim may seem visionary; however, what has been accomplished in the Canal Zone in the way of sanitation and prevention of disease is possible elsewhere, and, if the healthful conditions which now exist in the Canal Zone as a result of the health department's efforts also prevailed in other countries of Central and South America, there would be no need of any quarantine restrictions.

The geographical location of Ancon Hospital renders it very accessible to the people of Central and South American republics who are in need of surgical and medical treatment, since numerous ships ply between the ports of these countries and the ports of Panama (Balboa) and Colon (Cristobal). Those coming to Colon, at the Atlantic entrance to the Canal, have at their service the Panama railroad to transport them to the Pacific entrance to the Canal, where Ancon Hospital is located on the slopes of Ancon Hill overlooking the Panama City and Bay with a beautiful vista of mountains and savanas in the distance. Located, as Ancon Hospital is, amid a ver-

itable microcosm of beautiful and rare tropical plants, trees and shrubbery, it affords patients ideal surroundings which act as a panacea for restoration to health. This, combined with quiet, freedom from flies, mosquitos and other insects, aids greatly to the quick recovery of the sick admitted to Ancon Hospital. Due to the rigid sanitation of the very efficient health department, the Canal Zone, including the cities of Panama and Colon, have become a health resort where one can come and enjoy the salubrious climate and cool nights without the fear of contracting diseases as was the case during the early days of the building of the Canal. The hotels Tivoli and Washington and others of Panama and Colon afford commodious accommodations for sightseers and all are interested in seeing the marvelous engineering feat, the Panama Canal, which connects the two oceans.

The skilled professional and nursing staff of Ancon Hospital and its unexcelled equipment afford the sick treatment equal to that obtainable in the best hospitals in the United States or Europe. In treatment of cases of tropical diseases, it is unsurpassed by any hospital. Hospital fees are moderate and cheaper than similar institutions elsewhere. The rates are \$5 per day for ward treatment and \$7.50 per day in private room. This includes board, lodging, medicines, nursing and medical attendance. Extra charges are made for surgical operations, \$5 to \$500, depending on the nature of the operation, for x-rays, for private bath, private telephone, and special nurses requested by patient. Companions are admitted at the same rates. The only condition required is that deposit must be made on admission of \$150 or \$225 U. S. Currency, depending on whether ward or private room treatment is desired.

Although a government hospital erected primarily for the treatment of sick employes of the Canal Zone, patients from any part of the world are admitted and accommodations are available

at all times for ward and private room patients. Each is given the very best treatment that professional skill can devise with view of restoring the sick to their normal condition.

HISTORIC HOSPITAL BURNS

The historic hospital, Santo Spirito, in Rome, founded by Pope Innocent III in the twelfth century, lies in ruins following a disastrous fire on May 18. Santo Spirito was one of the most ancient and picturesque charitable institutions in Rome and accommodated 5,000 patients, including general hospital patients, insane, foundlings, and the aged and infirm.

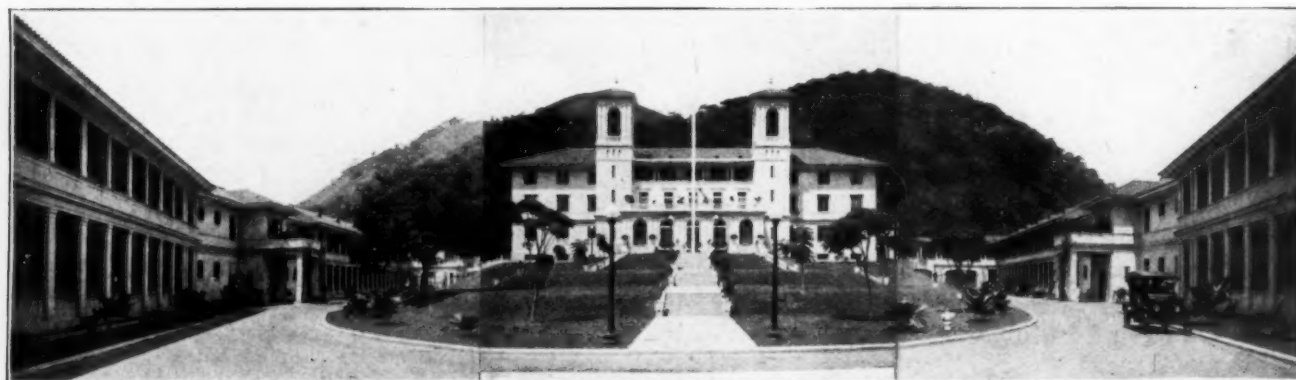
Twenty persons lost their lives in the fire, which started in the laundry at midnight. The flames soon spread to neighboring wards and patients became panic stricken. Doctors and nurses soon removed patients from some of the wards, others crawled out, but as firemen arrived a heavy beam fell, the pavement collapsed and twenty chronic patients were buried.

Santo Spirito is situated on the bank of the River Tiber not far from the Vatican. Founded by Pope Innocent III in the twelfth century, it was enlarged by Innocent IV the following century and rebuilt under Sixtus IV in the fifteenth century. The altar in the hospital chapel was designed by Andrea Palladio and is reputed to be the only work of this artist in Rome.

SOCIETY MAINTAINS LINEN SUPPLY

At the Middlesex Hospital, Middletown, Conn., the problem of maintaining the linen supply is very satisfactorily taken care of by the Middlesex Hospital Aid Society. This organization is composed of over 1,000 women from the entire Middlesex County. They pay a yearly fee of \$1 each and assist with all sewing. In order to cover all of the territory, the county is divided into fifteen districts, each under a local chairman.

A requisition for the linen needed during the coming year, together with a sample of each article is sent to the executive committee of the society. They assume all responsibility for filling this requisition. The materials are ordered and cut by a committee. When this is completed, the articles are sent to the chairman of the various districts who in turn distribute the material to the members of the society for sewing. The finished article is then sent to the main linen supply room of the hospital. This is not only a great financial aid but relieves the housekeeper of much planning.



Ancon Hill forms an ever-verdant background for the hospital, the Administration Building and Sections A and B of which are shown here. The interior terraced court contains the mango tree (left) and varieties of the palm leaf palm.

A PLEA FOR SMALL GROUP CARE OF THE INSANE

By P. S. WATERS, M.D., ASSISTANT SUPERINTENDENT, ALTON STATE HOSPITAL, ILLINOIS

DEALING as we do with abnormal physical and mental conditions in the inmates of our state institutions we are apt, if we are not exceedingly careful, to accept and maintain false standards of living for them. Our greatest obligation to the mentally unbalanced who come to us for care and treatment is to guide them back into a normal relationship to society and it is with this particular idea in view that the following facts are presented concerning the establishment at the Alton State Hospital of what we may term *small group care* of the insane.

Illinois, like many other states, maintains at great expense, large institutions many of which in part at least, have been built according to ideas now obsolete. The care of patients in large groups has a tendency on account of a monotonous and desultory mental life to place them in a groove and hasten deterioration. Patients with persecutory delusions and hyperquantivalent ideas are considerably irritated by conglomerate ward associations so that large group care has a tendency to defeat the very end desired. So far as possible we should strive to individualize our patients more, hence this argument for small group housing.

Farm colonies with their small groups enable us to come into closer contact with the individual in almost natural environment, to study his peculiarities and to remove his difficulties. The writer, after three years of observation and experimentation with this form of care, is convinced that it has a distinct therapeutic value, offering a more hopeful outlook to a larger number of patients than any other form of care introduced in recent years. The farm colony idea, of course, is not a new one. There are farm cottages in all the institutions of Illinois and many other states but almost invariably these are large buildings holding from forty to sixty patients and are viewed as industrial wards for patients concerned in the various activities of the farm. The most important qualification for residence in one of these cottages, as they are usually maintained, is the patient's proficiency as a farm laborer.

A better plan, as we view it, came into vogue at the Alton State Hospital rather accidentally when the thousand-acre hospital farm was taken over by the state and we came into possession of a number of buildings upon the various tracts of land formerly occupied by the tenants. Comprised in this acreage were two large brick buildings, one large frame dwelling and three small frame structures. The question of utilizing these buildings most profitably confronted us. They were in various states of dilapidation; one had even been condemned and ordered destroyed by state officials. All building for the insane had ceased in Illinois during the period of the war and

out of our consequent perplexities at Alton arose the present idea of the farm home care of patients, thanks in a great degree to the ability of Dr. George Zeller, superintendent at that time, to visualize the possibilities that lay in a few scattered farm houses. These farm homes were soon occupied by patients and the work of their repair in which the resident



Water fowl, raised by their own care, swim the quiet waters of a small lake and present an invigorating and healthful sight to the mental patients at rest after their day's work.

patients assisted was commenced. From these old farm houses four cheerful, sanitary and very livable homes were constructed, housing now about sixty-four of our male patients.

These farm homes for the patients, accommodating from sixteen to eighteen each, neither from their exterior nor interior appearance, advertise the fact that they shelter the insane. Rather they give the appearance of ordinary countryside homes; and within they are filled with the atmosphere of home life. It is this "home and fireside" air that emphasizes the difference of this idea from that of large group care. Every patient added, above this small number of a dozen and one-half, the writer feels will subtract a corresponding amount from the value of the home to the individual.

Of course it may be argued that the farm home is impracticable because it is too expensive to administer with a small number of patients. The cost of the upkeep, in the minds of many, is still a paramount issue, either as a cold business proposition or because of forced economy, the latter

condition being the more common. It is only necessary to visit these homes once to see that, so far as the patients' benefit is concerned, they are at least 100 per cent more efficient than the large group wards, and we are able to manage them at no greater per capita expense than the average ward. We place in charge of these homes a man and wife. The latter is charged with the care of the home while the former is a farm laborer in charge of details. Married couples are much happier employed and remain in the home continuously so only one employe per day is charged to each home. The housewife's work is pleasant and homelike. We always have many waiting for these positions. She trains her cook and household assistants, usually three or four inmates are required for these duties, and gives much time to overseeing the raising of poultry, which is being done on a considerable scale in connection with some of the colonies.

Should Avoid Institutional Architecture

And here, moved by the contrast, the writer would urge the construction of more homelike buildings, as free as possible from the marble and tile and the cold aseptic air so often seen in the construction of our ward buildings. We are not caring for patients accustomed to wealth and luxurious appointments at home.

In times past we have failed in a great measure to consider the value of environment as a remedial agent. There has been too much of the artificial and not enough of the natural. We have been taught to call our inmate a patient and in consequence everywhere about him he sees evidences of the hospital idea; the gowned nurse and white-coated attendant constantly remind him of the fact that he is handicapped. Why not substitute, in place of large impersonal structures for the care of from 30 per cent to 40 per cent of our institutional population, the "home and fireside" idea. Under ordinary conditions these cottages



Three small cottages combine to make a comfortable convalescent and reeducational ward for a few selected chronic cases. The presence of a baby in the house has been the biggest factor in restoring the patients to their normal interests.

can be built of frame and stucco to hold eighteen or twenty patients for about \$8,000 each. They should house patients engaged in every form of industrial occupation, as well as convalescents and cases where a small group care seems especially intimated.

The patients of our Colony One take care of our horses and some poultry.

Colony Two is beautifully situated among large maple trees and overlooking a small lake; no other buildings of the institution are in view except two other colonies. Here we have specialized in the raising of water fowl and from a few pair they have increased to a point where several hundred can be seen any day swimming upon the lake, an invigorating and healthful sight for our patients when they sit upon the porch after their day's work.

Colony Three is a large farm dwelling, the occupants of which are employed in the dairy a short distance away.

Baby Restores Normal Interests

Colony Four, most interesting of all, is not essentially an industrial colony, but has been gradually developed as a convalescent and reeducational ward for a few selected chronic cases. It is an assemblage of three small frame dwellings, once located at different points upon the farm and now made into a very cozy little home. Here a number of recoveries have taken place and many patients have gradually improved. Some time ago a baby was born to the mother in charge of this colony and allowed to remain there with its father and mother. This was a fortunate thing for a number of the patients in whom a return of normal interest apparently began with the entrance of the little stranger into this oddly assorted group. One not having seen it can scarcely appreciate what the presence of this child means to the life of this little colony. Relatives of the pa-



Occupants of this home, Farm Colony No. 3, are employed at a dairy a short distance away.

tients located here rejoice in their good fortune and insist upon their remaining.

One of the members of this group, an artist, who had been in another institution for twenty-five years and most of the time in closed wards, has recovered. A small studio was arranged for him when he produced some quite creditable paintings. The little child, he often remarked, had brought a new interest into his life. He has now been away for the past four months upon parole and is earning a living by his painting. Others of the colony assist with poultry and garden and two work in the carpenter shop. Many others who have been upon the receiving wards for months with little or no improvement have shown a marked gain and even recovery in the quiet, cheerful atmosphere of their rustic home. We regret that space will not permit giving a more detailed report of these cases. The observation of their improvement has been the most gratifying bit of experience the writer has enjoyed during his connection with state institutional work.

Advantages of Farm Colony

To watch the progressive, day-by-day awakening of the stupid dementia praecox, who for years has been deteriorating, emphasizes more than words can tell the importance of environment as a therapeutic agent in the treatment of the insane. Occupational therapy, our latest and possibly most powerful reeducational agent, loses much of its potency because the patient cannot be removed from the mire of his congregate ward environment and into the stimulating atmosphere of rural home life. Let us hope that the day is not far distant when the state will grasp this opportunity and instead of constructing more large buildings will build a farm home type of structure for housing the occupational, industrial, vocational patients and as many of the convalescent, acute cases as can be treated in this manner.

The small group farm colony care of mental cases, then, has the following advantages:

1. It affords a quiet farm home environment.
2. It does away with the irritating effect of conglomerate ward associations.
3. It removes the hospital or mental invalidism atmosphere.
4. It represents economical construction and maintenance.
5. It permits the study of individual traits together with the gradual increase of individual responsibility.

Cooperative anti-mosquito work in forty-five town situated in ten southern states has cut down their malaria rate by 75 to 90 per cent, says the U. S. Public Health Service. It saved its cost several times (in one town eight times) in doctor's bills, medicine bills and lost wages, all of which are items that are ascertainable.

WITHIN THE ARCTIC CIRCLE

The northernmost hospital on American soil has recently been opened at Port Barrow, Alaska. On a bleak promontory that juts into the frozen Arctic is the village of Port Barrow with a population of nine whites, including a doctor and nurse, and 450 Eskimos.

Three hundred miles to the south and four hundred miles to the east of Port Barrow lie villages, the nearest habitations.

Hospital facilities are, of course, lacking in these outposts. The newly erected hospital at Port Barrow, the point farthest north in Alaska, will then serve the scattered Eskimo tribes over an area of 60,000 square miles.

To erect a hospital in this isolated region was a triumph of enterprise. Building materials were sent from the United States to Nome by steamship; thence from Nome to Port Barrow by small schooners. The journey had to be made during the fleeting northern summer and was beset even then with the perils of storm. The tiny fleet of schooners en route to Port Barrow became separated in a blinding gale and one was carried to the coast of Siberia.

The vessels were to carry 200 tons of coal for the use of the workers during the first year but only 55 tons were delivered and great hardship resulted.

Building materials arrived on the first of September, 1921, and workers set to work with all haste so that superstructure might be erected before the first of the heavy snows. The foundations were begun and in six days the big chimney was started. By the time the chimney had reached the height of thirty feet, however, a severe frost set in, and in order that the work might continue, a great bonfire was lighted and kept burning around the mortar, which was used steaming hot.

Steadily the work progressed to the amazement of the Eskimos who had never imagined a building so vast. The hospital is constructed of wood and wood-pulp board and is 70 feet long and 38 feet wide. The basement rests upon ice. In the basement are two hot air furnaces, to combat the frequent temperatures of 60 and 70 degrees below zero, and an electric light plant.

If the Eskimos were astounded at the magnificence of the main building, they were struck dumb with terror at the sight of the first electric light. Their early fear soon passed into childish delight and now it is said that their chief pleasure is in switching the lights on and off.

The hospital cost \$35,000 and has accommodations for seventy patients. At present, however, it is equipped with only twelve beds. The staff consists of one doctor, one nurse, a housekeeper and a porter. More trained assistants are hoped for later.

SOCIAL SERVICE DIRECTORY OUT

A directory of the social service departments in hospitals and dispensaries of the United States and Canada prepared by Miss Ida M. Cannon, director of the Service Bureau on Social Work of the American Hospital Association, came off the press last month and is being distributed. It is known as Bulletin No. 43 of the American Hospital Association series.

In presenting the directory to the trustees of the American Hospital Association, Miss Cannon asserts that the information was accumulated for her use as director of the Service Bureau on Hospital Social Work but urges that the material compiled be considered for publication as an official report of the bureau so that it may be available to those interested.

A CHARITY HOSPITAL FOR CHILDREN

By ROBERT McE. SCHAUFFLER, M.D., STAFF PHYSICIAN, CHILDREN'S MERCY HOSPITAL, KANSAS CITY, MO.

THE Children's Mercy Hospital of Kansas City, Mo., is a 135-bed general hospital. The words of the cornerstone indicate its purpose: "In 1897 Dr. Alice Berry Graham founded this hospital for sick and crippled children, to be forever non-sectarian, non-local, and for those who cannot pay."



Please may I come in?

Its beginning was very modest—a few free beds for crippled children maintained in a general hospital by gifts solicited by Dr. Graham largely from theatrical folk, and from artists and musicians. The contributors were mostly people of small means but big hearts. After a time an old residence was secured

to house the children, and soon a substantial addition of hospital construction was added. Members of Union Labor organizations contributed money and services. The present building was designed by Architects Wight & Wight, of Kansas City, and was completed in 1917.

Throughout the years of physical expansion the ideals of the founder have been preserved unchanged. Dr. Alice Graham and her sister, Dr. Katharine B. Richardson, are responsible for the Mercy Hospital of the past and present, and their influence will extend far into the future. The hospital presents an almost perfect blend of the

ideal and the practical as exhibited in the character of these two self-sacrificing women. Since the death of Dr. Graham in 1913, Dr. Richardson has been the dominant factor in Mercy Hospital, devoting a large part of her time, strength and thought to the institution, entirely without financial remuneration. As one should expect, since the hospital was founded by women, is managed entirely by a central board of women and has a woman superintendent, the problems of good housekeeping have been carefully thought out and efficiently solved. No expense has been spared to obtain a maximum of light and air. Glass tile has been used freely in all toilets and dressing rooms as well as in the operating rooms. The floors are covered with battleship linoleum. The linen and sewing rooms are combined in a large, well lighted room. The linen chests are built in the room, like a library stack room. There are plenty of cedar-lined apartments. The store closets for fruit and food supplies would delight an old-fashioned householder. Out-of-doors, across the kitchen court, is a large cellar for the storage of winter vegetables. The inside partitions, between wards and halls or other wards, are largely of glass, thus lighting the wide halls where the nurses' desks are located and making it possible for the nurse to see what is going on in any one of three wards by merely turning her head. This is also convenient in that visitors can see the children without entering the wards. There are large enclosed porch wards at the ends of the building. There is a children's dining room on each floor and a large play room and a large school room are on the first floor.



The Children's Mercy Hospital of Kansas City, a charity institution.



The children's indoor playroom resembles an amusement park. It contains toys and games for all.

The building has a basement first floor which is wholly above the level of the ground throughout most of its extent. The second and third floors contain the main hospital wards. On the fourth floor are four units for isolation of contagious diseases, each complete with nurse's room, toilet, sterilizing room and food intake. The stem extending to the north contains kitchen and quarters for help on the ground floor and nurses' quarters above. It is hoped that the money to build a separate nurses' home can be raised in 1922, when this space will be available for additional patients. It was constructed with partitions which can easily be removed, and the plumbing was arranged in anticipation of this change.

Routine of Patients

Let us follow a patient through the house: He is examined in the out-patient department (west end, first floor); Miss Anderson, head of the home service department, is also head nurse and chief clerk during dispensary hours. Her assistant is out with a Ford coupe making visits or,

in special cases, transporting children. If recommended for admission, the child's clothes are delivered to the parent and the little patient, in hospital garments, is taken up to the "wait-a-while" ward, (second floor, west). This is a room divided into glass cubicles for admission isolation. If the child has pneumonia it may be admitted to a porch ward, (also second floor, west). The overflow goes to a general ward (second floor, west) which will, at an early date, be divided into glass cubicles. Children are held in admission wards for from one to three weeks, depending on the individual case and the information at hand as to the prevalence of contagious diseases in the community and what diseases the child has already had. Children, referred for nose and throat operations, go to wards reserved for that purpose on the third floor, west. These cases are usually in the hospital only a short time and do not go to the dining room, play rooms or school rooms.

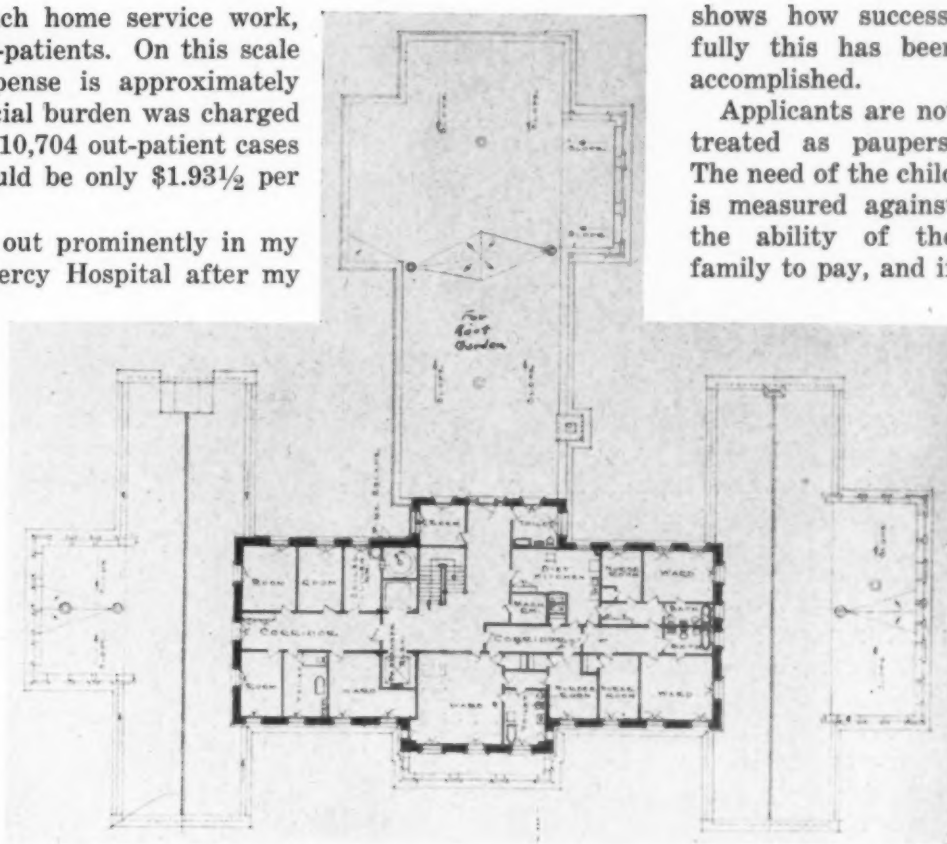
By admission isolation, by segregation of the nose and throat cases, by prohibition of child

of braces, as well as much home service work, are for the benefit of out-patients. On this scale the per capita daily expense is approximately \$1.66. If the whole financial burden was charged to the in-patients and the 10,704 out-patient cases carried free, the rate would be only \$1.93½ per capita daily.

Several features stand out prominently in my mind as distinctive of Mercy Hospital after my nearly twenty years of service on the staff. Mercy Hospital has been maintained by a multitude of gifts, most of them of small amount. Many groups of women and children have sewed and cooked for "Mercy," and have raised money for specific purposes through club activities. So much love has gone into the gifts that it is reflected in the spirit of the service rendered by the hospital. An earnest effort is made to conduct the hospital so that every dollar contributed shall go as far as possible. Everything bought is of the best quality and then the utmost care is taken to see that nothing is wasted or misused. The remarkably low per capita expense

shows how successfully this has been accomplished.

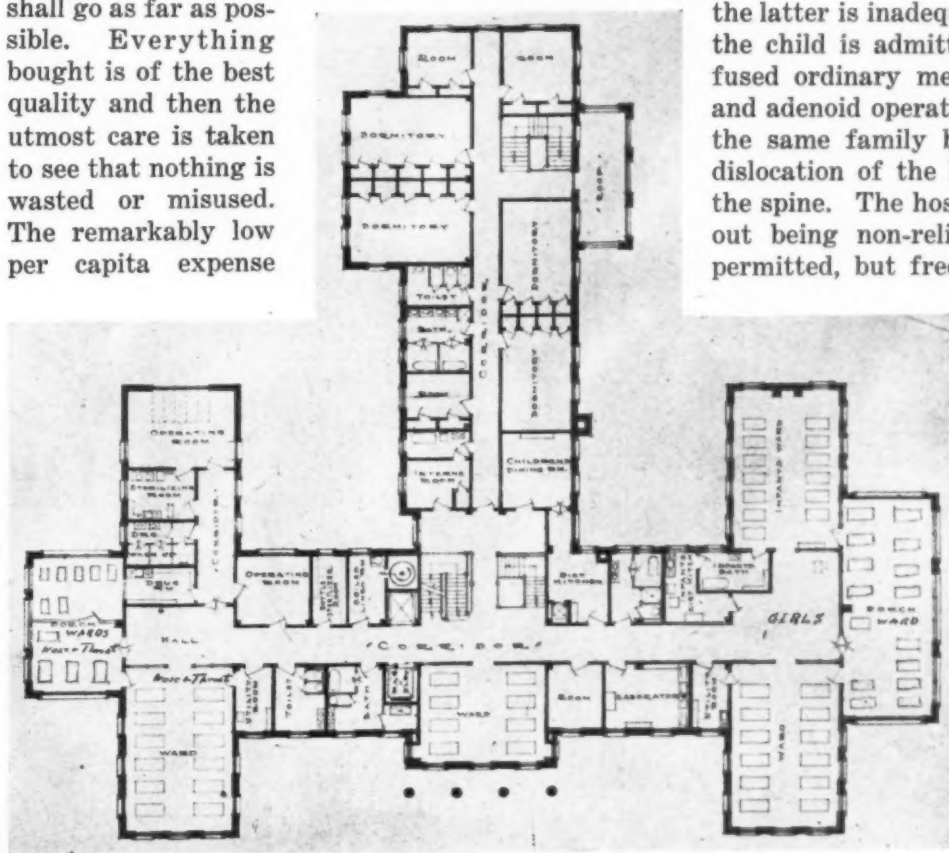
Applicants are not treated as paupers. The need of the child is measured against the ability of the family to pay, and if



Third floor plan.

the latter is inadequate for the particular need the child is admitted. A child might be refused ordinary medical attention or a tonsil and adenoid operation, but another child from the same family be admitted for congenital dislocation of the hips or for tuberculosis of the spine. The hospital is non-sectarian without being non-religious. No proselyting is permitted, but free access is given to rabbi,

priest, or clergyman. There is a chapel which may be set for the religious ceremonial of any faith. Everyone connected with the institution is taught that the proper meaning of the word, "charity," is love, and that loving ministrations to the afflicted is the purpose of the institution. The professional care of the children is furnished by a well-balanced closed staff. The hospital had only to adopt a new order of business for staff



Second floor plan.



Are you our big brother?

meetings to conform to the Grade A standard of the American College of Surgeons. There are no consulting members of the staff and no assistants. Each attending member is expected to take all the care of his patients and if the work becomes too heavy for him he is to divide the service with another appointee.

No child is refused admission where there is any reasonable hope that he may be benefitted. The child may stay as long as the attending physician desires.

Children who have been in the hospital a year or more show little evidence of being institutionalized. The freedom from red-tape, the general friendly spirit of nurses and attendants, the influence of the school teacher and of the play teacher, the many little treats and entertainments, all contribute to this happy result.

Mercy Hospital never stands still. It is always planning improvements and innovations and trying to do the old things better each year. The spirit of the founder, Dr. Graham, is still the guiding star of the institution. Dr. Richardson is the dynamic force behind its present activities and the dreamer of dreams for its future. She it is who raises money for improvements and expansion. Miss Mary Burman, the superintendent, and Miss Anna Anderson, head of the home service department, are the able field marshals and convert ideals into realities of efficient daily service.

The result is a model children's hospital, offering scientific medical attention of a high order in an atmosphere of loving consideration for little children.

NEW YORK HOSPITAL GETS HALF MILLION

The Society of the New York Hospital has announced a recent gift of \$500,000 from George F. Baker, a governor of the Society. The donation, together with a gift of \$250,000 made by Mr. Baker in 1912, will be used by the

hospital board to establish the George F. Baker Endowment Fund.

The Society of the New York Hospital, operating the New York Hospital in West 16th St., the Bloomingdale Hospital for Mental and Nervous Diseases and the Campbell Cottages for Convalescent Children at White Plains is the second oldest hospital institution in the United States, having been granted a charter by King George III of England in 1771, one hundred and fifty-one years ago. Since that time the hospital has treated 2,018,000 patients, seventy per cent of whom, it is estimated, have been cared for free of charge.

All of the branches of the Society have been operated at a loss during the past ten years, the net loss ranging between \$40,000 and \$80,000 per annum, it is declared. Prior to that time the hospital's receipts were sufficient to meet all expenses because of the income from endowment funds created years ago. Campbell Cottages, where children from the wards of New York Hospital and other local institutions are taken after operations and where mal-nutrition cases are cared for, is absolutely free and causes the Society a net loss of approximately \$50,000 a year.

PRENATAL CARE IN CHICAGO

What is probably the most complete and thorough study of facilities for prenatal care which has been made in any American City is described in the recent report of a survey by the Chicago Community Trust on "Prenatal Care in Chicago." The report shows that Chicago possesses too few institutional facilities for prenatal care of good quality and urges extension of this care, standardization and unification in the special training of physicians and nurses, and the development of an understanding public sentiment.

The Chicago survey found twenty-eight centers or stations in active operation. Large areas of the city, however, have no institutional prenatal service and in these neglected areas the report indicates that maternal and infant death rates are highest. All the clinics combined serve but little more than 10 per cent of the 57,000 cases in the city.

A schedule of standards which may be regarded as a minimum requirement for prenatal work is presented in the report for discussion and possible adoption.

TO ORGANIZE CAMPAIGN FOR AMERICAN HOSPITAL IN PARIS

The board of governors of the American Hospital of Paris has appointed two American women to organize bureaus of information for the hospital in United States and Paris. Miss Annie Flint, daughter of the late Dr. Austin Flint, one of the founders of Bellevue Hospital Medical College, will organize the bureau in the United States. Mrs. Henry Townsend Ashmore will open the Paris bureau.

So enormously has the hospital work grown since its foundation in 1904, that the present building with its thirty-two beds is inadequate to meet the needs of the American public in Europe. The board of governors has therefore decided that a complete new hospital of 100 beds—forty free and sixty paying—must be built. The hospital owns, approximately, 15,000 square meters of land. The funds in hand are sufficient to begin work on the new structure, which it is hoped can be inaugurated by 1924.

Already 12,000,000 francs of the 18,000,000 francs required for this hospital have been subscribed.

THE DEPARTMENT OF RECORDS IN THE HOSPITAL OF MODERATE SIZE

BY M. GENEVIEVE MORSE, MUHLENBERG HOSPITAL, PLAINFIELD, NEW JERSEY.

THE establishing of an up-to-date department of case records in a hospital of moderate size is a comparatively new thing, and to the average institution it is an undertaking presenting numerous problems difficult of solution. There is no place for a properly equipped record room in a building already crowded almost beyond its capacity. A trained worker to take charge of the department is hard to find. Chart-keeping and history-taking such as are required in the making of case records which are really valuable to an institution will mean the reeducation of the nursing force, the heads of special departments and the medical staff. A creditable and useful record department is not organized in a day, nor is it the result of one person's unaided efforts; it is dependent upon "a long pull, a strong pull, and a pull altogether" by the entire personnel of the hospital.

The three principal purposes of case records are: to furnish information regarding patients who are readmitted, enter other institutions, are seeking to collect damages for alleged injuries, etc.; to form the basis for the compilation of medical statistics; and to provide material for medical research. As a recent writer for THE MODERN HOSPITAL forcefully says: "Records are demanded in the interest of the hospital's and the physician's conscience, in the interest of the patient's and the community's health, and last, and perhaps most far-reaching, in the interest of the advancement of science. . . . The science of preventive medicine can only advance through the accumulation of facts. These facts mean records."

The need for an efficiently conducted department of records in any hospital purposing to keep up with the times may then be taken for granted. It is an important question, therefore, how in the organization and carrying on of such a department in an institution of moderate size, where hitherto but little attention has been paid to this line of work, there can be achieved that "pull all to-

When an inspector entered a certain hospital with an inquiry concerning a case record he was told that it was probably in a closet on the top floor. After a four-day search the case record was discovered. Although this is an extreme case, it illustrates for Miss M. Genevieve Morse her point that many small and moderate-sized hospitals are exceedingly lax in maintaining a department of records, due both to the difficulty of establishing a well ordered department in an institution already overcrowded and to the failure of many executives to realize the importance of records. The cooperation of all the departments is essential to the maintenance of an accessible and an accurate record department.

gether" which is needed to attain the desired end.

Just what in the way of cooperation can and should be expected of those connected with other departments of the hospital's work?

1.—*The governing board and the superintendent.* That hospital which is fortunate has directors and a chief executive who realize the importance of properly kept case records—the "memory cells of the

hospital's brain," and its only resource when inquiries come to it from any source regarding discharged patients. For upon these officers rests the responsibility of the organization, housing, equipment and support of the record department, and the engaging of its personnel. Case records of some sort have always been kept in hospitals, but their standardization requirements today are such that for their proper preparation and preservation there are needed a special room, adequately equipped, and a skilled worker or workers to take charge of them. It is to be hoped that few hospitals with any pretention at being modern in methods are in such case as one recently visited by a hospital inspector, where, upon inquiry concerning a certain case record it was stated that it was "probably in a closet on the top floor," and was only discovered after a four-day search. But there are still only too many hospitals where the record work is carried on under great difficulties, and where those in authority have not yet come to realize its importance.

A room in which case records and their card indexes can be locked up during the absence of the custodian is desirable not only as a matter of convenience, but in the interest of the hospital's reputation. Where this precaution is not taken, there is always the danger that these most intimate revelations of a patient's private affairs may be read and imparted to others by unscrupulous or morbidly curious hospital employees or others who may gain access to them. Such persons may even be induced to act as emissaries for outsiders

who desire to obtain certain information. The question of convenience is, however, hardly secondary. In a busy hospital the records are constantly being consulted by attending physicians, house doctors, dispensary clerks and social workers, while inquiries for information regarding discharged patients from other institutions, life insurance companies, legal sources, etc., are almost as frequent. A convenient place for the consultation of records and proper facilities for the rapid finding of what is desired will not only be appreciated by seekers for information but will add to the hospital's reputation for efficiency and public service. In addition to this, such work as the indexing of case records, making of case summaries, and tabulating of results for statistical purposes can only be done in a quiet place, removed from the turmoil of a busy hospital office. Finding space for such purposes, in an institution already needing enlargement in all departments, is often a difficult problem; but it is one worth very serious consideration.

Worker Must Know Medical Terms

Trained workers for record departments are few. A nurse who is well grounded in general medicine and has some knowledge of clerical work will usually succeed better than a commercial school graduate with no medical knowledge, except in an institution where there is a system requiring no initiative on her part. In a beautiful suburban hospital the direction of a recently organized record department was given to a young stenographer who was conscientious and hard-working but utterly unprepared from a medical point of view; notwithstanding, she was required to write all the case histories from the doctors' dictation. "Dr. Blank very kindly gave me a medical dictionary," she said to a visitor who marvelled that she could handle the situation. Even so, it is doubtful if Dr. Blank would have been willing to swear to some of his histories in a court of law. For this stenographer to have attempted to standardize the carelessly worded diagnoses often turned in or to write elaborate case summaries would have been out of the question. There are now one or two schools where excellent courses in record department methods are offered, but it is quite practicable for a nurse with a good general education and an aptitude for painstaking clerical work to acquire in a short time a sufficient knowledge of indexing, filing and typing to make her a very useful record clerk or historian, under careful medical supervision.

Office Data Must Be Accurate

2.—*The hospital office.* The record department is dependent upon the hospital office for accurate

information as to a patient's name, address, age and other details which appear upon the bedside card. It is from this that the nurse filling out what may be called the title page of a patient's chart obtains a portion of her data, and it is these cards which are referred to when inquiries come to the record department for a patient's full name, address, etc. Carelessness on the part of the admitting officer may cause serious inconvenience to an attending physician or follow-up worker. For example, where the name of the city or town is not given in the address, as well as the street and number, follow-up workers may waste valuable time in looking for a patient in a wrong locality.

Most hospitals have a rule that in leaving the institution a patient on discharge must be accompanied by his completed chart and his bedside card, the latter duly signed by attending physician or intern, stating the final diagnosis and the condition of the patient when leaving. In hospitals lacking the clockwork-like system of the great institutions, however, the frequently inadequate staff allows such rules to fall into abeyance, and this is certain to mean trouble for the record department. Bedside cards arrive at the historian's office unsigned, lacking diagnosis or result; they remain on the wards until hunted up; or they disappear altogether. Charts are turned in in all stages of incompleteness; they may fail to appear at all for several days or even longer; they may even be actually lost, to the great embarrassment of the record clerks. The insistence upon the keeping of rules governing these matters must come from the executive office, which is thus in a position very largely to make or mar the work of the record room.

Writing of Histories

3.—*The attending physicians and house doctors.* The division of work in the writing of histories and physical examinations varies so much in different institutions that in considering what they can do to help the record department, outside physicians and surgeons and the interns must be spoken of together. Whether the case histories, physical examinations and progress notes are written by an attending doctor or house doctor or dictated by one or the other to a nurse-historian or record clerk, the real responsibility rests upon the officers of the medical board and the heads of the various services. The fuller and more detailed the history, the more valuable is the record, either in case it is required for use in a later illness of the patient, as legal evidence, or as material for medical research. Many doctors and interns shirk history writing and make as

short work of it as possible; yet they would probably be the first ones to complain of incompleteness, should they find upon consulting a record that it did not contain the information they desired.

Where case summaries are made, to be used for discussion at the doctors' staff meeting, little of interest can be obtained for the summary sheet from a meager, hastily written history. Promptness in writing histories and physical examinations is the only way by which accuracy can be assured; when these are left unwritten until after the patient's discharge they are sure to be less satisfactory, and the work of the record department is delayed. Progress notes on all suitable cases are now required by the "Minimum Standard" of the American College of Surgeons, and they add tremendously to the value of case histories, but they are only too frequently neglected and much information, which would render case summaries more interesting and provide material for medical research, is thereby lost.

A physician who treats a case must, in order to do so in an intelligent manner, have made at least a tentative diagnosis, yet an amazing number of case records have no working diagnosis entered upon them, although such diagnosis is one of the requirements of the "Minimum Standard." It is not even an unknown thing, in the smaller institutions, for a patient to be discharged without a final diagnosis having been entered in his record. "If you know what that patient had, you know more than I do," said a senior attending physician to a record clerk who asked for a diagnosis under such circumstances. Before such an attitude the record department is helpless.

Importance of Operating Room Records

4.—*The operating room.* Only the eternal vigilance and untiring perseverance of the supervisor will prevent failure on the part of the surgeons, anesthetists and her assistants to furnish the record department with all the information regarding operations for which they are responsible. If she would resolutely refuse (except of course in emergency cases) to begin an operation until the working diagnosis was entered upon the patient's chart and signed by the attending surgeon, the record department would not receive the records of so many cases in which apparently no diagnosis was made until after the operation. She should also ascertain that no anesthesia chart leaves the operating room until it contains all the required data and has been signed by operator and anesthetist. Surgical cases are those concerning which the largest number of inquiries come to the record room, and an anesthesia chart which fails to give the name of the anesthetist, the length of

time consumed by the operation, the number and kind of sutures, drains, etc., which were used, or some other important detail, reflects little credit upon the institution and gives little satisfaction to the inquirer who desires to use it in legal proceedings or for research purposes. If the description of the operative procedures and the condition of the organs explored, which is required by the "Minimum Standard," is to be written on the anesthesia sheet, the supervisor should see that this is done by the anesthetist or whoever is responsible for it before the anesthesia sheet leaves the operating room. When a patient who has been operated upon comes again into the hands of a surgeon, the more the latter can learn of the operative procedures and findings, the better prepared he is to handle the situation and the better the patient's chances for recovery. In that case of ovarian cyst, was the ovary removed or the cyst merely punctured? In connection with that hysterectomy, was an appendectomy done? What was the condition of the stomach, or the gall-bladder, or the uterus, when that exploratory laparotomy was done? If everyone responsible for the reporting of an operation would put himself mentally in the place of the surgeon who may one day need all the information he can obtain regarding it, fewer inquirers would meet with disappointment. The hospital of moderate size seldom has an operating room stenographer, and if operations are to be properly reported it must be plainly understood who is responsible for the work, and no exceptions must be allowed.

Laboratory Records Should Be Prompt

5.—*The laboratories.* Almost as frequent as the inquiries received by the record department for details of operations are those regarding the results of laboratory examinations, especially the results of Wassermann tests and tissue examinations from the pathological department and reports of x-ray work. In small and sometimes in large hospitals these departments are understaffed, and if a large amount of work is done it is difficult to get out the written reports with sufficient promptness to insure their being entered in the charts of patients who only remain in the hospital a short time. Yet the absence of such reports when inquired for may mean inconvenience and loss of time when the patient is readmitted, comes to the out-patient department or consults an outside physician. No case record can be considered complete which does not include a report of every laboratory examination which has been made during the patient's stay in hospital. Coöperation on the part of the laboratory workers is thus of the first importance.

Carelessness in Bedside Notes

6.—*The nursing personnel.* In hospitals where modern methods prevail, the charting done by student nurses is carefully supervised and the required information is fully and precisely given. In well-kept bedside notes there is no room for question as to the time of admission or discharge, the condition of the patient on returning from the operating room, or any of the other details to which the attending physicians or the hospital authorities so often wish to refer. The properly instructed delivery room nurse ascertains that in every report of a birth there is stated who does the delivery; what anesthetic, if any, is given, and by whom; whether or not forceps are applied, and what kind of forceps; how many sutures are used and of what material, etc. For these and many other details of the nurse's part in the making of records the supervising nurses are responsible; but if student nurses themselves could realize how often their bedside notes, order sheets and temperature charts are scrutinized by attending physicians, and that any record is liable to be some day studied by lawyers, representatives of life insurance companies, etc., they would take more pride in having their entries full, correct, neatly written and properly spelled. The misspelling of medical terms might be pardoned in inexperienced students, but for such errors as "immurgency," "opperation," "dialated," and "muster plaster" there is not the same excuse. Incomplete records are more often turned in by graduate nurses "specialing" private cases than by student nurses, in the up-to-date hospital. It may be said that earlier graduates received less careful training in charting than the student nurse of today, but it is difficult to see how any nurse desiring to be a credit to her profession can be satisfied to hand in bedside notes where the fragmentary report of a week's care of a surgical case barely covers one page, or can consider her duty done in describing a delivery when she has inscribed in her notes a single sentence: "The patient gave birth to a baby." These are not imaginary occurrences, nor are they isolated instances.

Cross Reference System Necessary

7.—*The out-patient department.* If there is a separate record system for dispensary patients, there should be some method of correlating the cases in the two departments of the hospital's work. Many patients attend one or more of the clinics before being admitted to the wards, while many others, after being discharged from the hospital, are directed to return to the out-patient department for further treatment. Or in after days they may appear with some recurrent or new ail-

ment. In any of these instances, the record which has been kept in one department will throw light upon the work of the other; and for this reason there should be in use some system of cross reference, by which it can be seen at a glance whether or not a patient admitted to the hospital has already been treated in the dispensary, and vice versa.

The various departments of a hospital are like St. Paul's description of the human body: if the work of one is inefficient, the others share in the ill effects. Especially is the record department the victim of carelessness or neglect, antiquated methods and indifference to progressive ideals. The world moves, and one direction in which the hospital world is moving is toward the building up and making available, through the record systems of the nation's hospitals, a mass of medical information which is a most important source of that knowledge which little by little is gaining control of the preventable diseases which afflict humanity. All honor to those hospital workers, in lofty places or in lowly, whose efforts are forwarding this good work.

DEVISES NEW HOSPITAL GOWN

Mrs. George Thompson of New York and Oyster Bay has invented a hospital gown which is said to have met the approval and commendation of more than 100 well known physicians and surgeons of New York. Many declare that the gown is the most practical garment for the sick and bed-ridden they have ever seen because it can be removed in part or altogether without disturbing the patient in the slightest degree. It also simplifies and saves time, according to the physicians, when a patient visits a doctor's office, for it is so constructed that it can be worn at all times. The inspiration for the gown came to the society woman when she was seriously ill in a hospital recently. More than anything she dreaded the annoyance and pain incident to the slightest motion. From that experience she worked out what she calls her "sick garment." This is how she makes it:

The back and front of the garment (whether it be pajamas or the old-fashioned night-gown) are made in two parts and are fastened together with snappers. In examinations of the heart and lungs all that is necessary for the nurse to do is to detach the snappers at the neck and shoulders and turn down one half of the front of the garment.

The sleeves are also attached by snappers, and one pull will bring an entire sleeve away so that a hypodermic injection may be given, the examination of a fracture made, or a soiled sleeve may go to the laundry.

If the garment is equipped with legging, or is in the pajama form, it is made in two parts and can be removed in the same manner.

The young physician answered the telephone, and a beatific smile spread over his face as he listened, then replied:

"Very well, Mrs. Jones, I'll be right over."

Then hurrying to the office door, he called:

"Oh, Mary, my practice is sick again!"

LAUNDERING FOR A HOSPITAL GROUP

BY WALTER T. WILLIAMS, CINCINNATI, OHIO

AS a general description of the Cincinnati General Hospital, the laundry department of which I am to describe, has been published in these columns I shall not give any details of the big institution which consists of twenty-four buildings occupying twenty-seven acres of ground and forming what is really a group of hospitals.

One would naturally expect the laundering for such a large institution to be an extremely difficult matter with many perplexing problems; but if there are either difficulties or problems in the laundry, they did not present themselves during my several visits to the plant. Dr. A. C. Bachmeyer, the superintendent of the hospital, has nothing but smiles and pleasant expressions when it comes to discussing his laundry department which is managed most capably by a young woman, Miss Anna P. Glendening who is also superintendent of the linen department.

The laundry department consists of two complete plants adjoining each other. One of these plants does the laundering for the wards which occupy seven buildings and contain 850 beds, four of these buildings with 150 beds being for contagious cases. The other plant does finished work principally for interns, nurses and general employes, but it also launders considerable flat work which comes from the dormitories. Both of these plants are efficient and turn out an excellent grade of work. One notable feature is that the wear on the fabrics is reduced to a minimum.

The plant that does the laundering for the wards, as may be seen from one of the accom-

panying illustrations, occupies a large room with light on three sides. On entering, one comes to the sterilizer, which is a washing machine built to withstand the pressure of steam. (For a general description of this washer see *THE MODERN HOSPITAL*, Vol. XVI, No. 4, p. 328.) This machine sets against the wall and in the back of its outer shell, leading into another room, is an opening with a steam-tight door.

The goods from the contagious wards come to this outer room and a man assorts the pieces and loads the washer. There is no contact between this man outside and the washman inside, such being made unnecessary by a simple system of signals. In both the rear room where the loading is done and in the washroom there are two electric signal lights, one of each pair being red and the other green. When the washman ends his day's work, he rotates the cylinder until its opening is even with the rear opening so that the machine may be loaded. Then he fastens the steam-tight door on his side, after which he pushes the button that turns on the green light in the other room, an action that automatically lights the red light on his side. The machine must not be used on the side where the red light burns, and a red light always is burning on one side or the other.

Each morning the man in the rear assorts a load of goods and fills the machine, after which he closes the steam-tight door on his side and displays a green light on the washroom side, his own red light being automatically displayed by the same action. The washing proceeds with the



View in the plant in which the laundering for the wards is done. The sterilizing washer, shown in another illustration, is located at the left of the long line of washers which are shown in this picture.



A section of the plant in which the laundering for the personnel is done. This is a complete finished-work plant in which is done all the work for the interns, nurses and other members of the force.

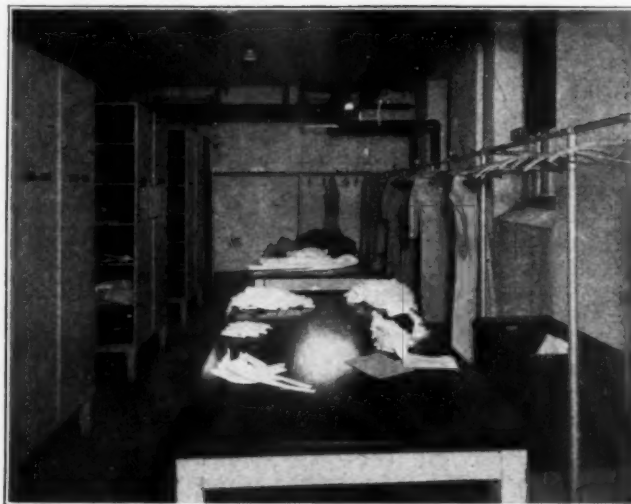
usual formula for the class of goods in the machine, just the same as it would in any other washing machine. Then steam is admitted for twenty minutes, at a pressure of fifteen pounds, which gives a temperature of 250 degrees F. Next, the load is removed from the machine, is put into a truck and sent to the extractor. The cylinder is set opposite the loading door, the door on the laundry side is closed, the green light is displayed at the rear, and the process is repeated as before. Thus no person in the laundry is exposed to contagion.

The other equipment of the ward laundry consists of five large washers and one small one, with galvanized shells and brass cylinders. Electric drive, direct-connected, with panel control is used on these, but the sterilizing washer has an independent electric drive of the ordinary type. Two large over-driven extractors and a small under-driven one take care of the output of all of these washers. The drying is done by means of one conveyor dryroom, one rack dryroom and one small drying tumbler. The flat work of course is not dried but goes direct to the flat work ironers. There are two of these machines, one with seven rolls and the other with six and their combined daily output averages about 9,500 pieces.

Although not a part of the laundry, a big



View in the assorting and wrapping room.



A section of the nurses' locker room to which the laundry delivers the laundered articles, placing uniforms on hangers.



A section of the hospital's linen room showing the work as it is delivered by the laundry department.

steam sterilizer of the stationary type may be said to be an adjunct. This apparatus stands in the room in which the goods from the contagious wards is received and from which it goes into the sterilizing washing machine, and it is attended to by the man who assort and loads the washer. Mattresses and other large articles are sterilized in this, including pillows; sometimes the pillows are washed.

The second plant or "personal department" is a complete finished-work laundry that handles everything to starched collars, and in it is done all of the laundering for interns, supervisors, nurses and other resident employees including the general help.

The marking room of this section is unique in the fact that although the department each week launders nearly 6,000 pieces of personal goods, belonging to several hundred individuals, it practically does no marking. An exception is made in the case of the thirty-five interns, articles belonging to them are marked; but the 165 nurses, the eleven supervisors, and the 250 other resident employees, making a total of 426 persons, must do their own marking or otherwise their bundles will be returned to them unlaundered. Each person is given a supply of small tapes, marked on the marking machine, and it remains for each individual, male or female, either to sew on the



Electric truck bringing a load of soiled goods to the laundry. This view shows the receiving room of the ward laundry which has ample storage capacity for the large volume that goes through it.

tapes or get someone else to do it. Each makes a list of goods sent to the laundry, and in case of error the sender is notified but the work proceeds.

This laundry is in a light and pleasant room with large windows on two sides and contains the following equipment: two large ashers, galvanized shell with brass cylinders, and a small one of the same type, all with direct-connected motors and panel control; one large over-driven extractor and a small under-driven one; one starching machine with starch cooker and other accessories; one shirt press with yoke, cuff and neckband presses; one drying tumbler; six pressing machines arranged in three tandem units; one two-roll flat work ironer; one collar ironer with necessary finishing machines; nine hand ironing boards with electric irons; three stationary tubs for washing fine articles; one marking machine, motor-driven.

General Methods Employed

The methods in these plants are much the same as the standard methods used in others. One notable exception, and it is worthy of adoption, is that the bleach bath has almost been eliminated. Only a very small amount of bleaching is done in the plant that does the ward work, and practically none is done in the individual plant. All sour baths are made up with acetic acid.

The assorting is done in a small room that is located between the two plants. In one corner of this cheerful room near windows filled with growing plant is the desk of Miss Glendening, superintendent of the laundry department.

The personal work is delivered by the laundry to the different dormitories or wards in which it belongs. The ward work is sent to the linen room, and from there it is distributed to the wards on requisition. Here, it may be said, rests the only laundry problem that confronts Dr. Bachmeyer; it is caused by a shortage of linen, due to the fact that the hospital's allotment of funds for fabrics is not quite as large as desired. But this problem, like all others which confront him, ultimately will be solved by the doctor. As matters now stand, it sometimes happens that the same linen must be washed twice in one day.



The big sterilizing washer in which all goods from the contagious wards is washed. This is the washroom side into which the washed and sterilized load is discharged. The soiled articles are put into the washer through a door that opens into another room in the rear.

Taking into consideration the large amount of work done, the expense of operating the two laundries is remarkably small. The plant is operated by an unusually small number of workers. Including the superintendent the laundry department has an average of thirty-seven employees with a payroll of \$1,760 per month. Seventeen of these are residents, receiving their meals and lodging, and the twenty others receive

only their meals. The average expense for laun-



Stationary steam sterilizer in which goods are disinfected when it is not desired to wash the articles. The rear door of the sterilizing washer opens into this room and through it the machine is loaded.

dry supplies is about \$350 per month.

The ward linen, taking an average month, consisted of 283,000 pieces of flat work. The labor expense was \$855 and the expense for supplies was \$198, making a total labor-and-supply expense of \$1,053.

In an average month the personal department laundered 28,000 pieces of starched work and 22,000 pieces of flat work, a total of 50,000 pieces. This includes work from the women's dormitory, nurses' home, contagious dormitory and administration building. The labor cost was \$905 and the supply cost was \$128.

Thus we see that the average gross cost of laundering for the patients was but \$2.07 each per month, or a little less than 52 cents per week. The average cost per capita for officers and employes was almost the same, it being only \$2.06 per month, or 51½ cents per week.

HOSPITAL LIBRARY EXHIBIT OF INTEREST AT A. M. A. CONVENTION

The central point of interest in the American Library Association Exhibit of hospital libraries at the recent convention of the American Medical Association in St. Louis was the demonstration of the three methods of book distribution to hospital patients now in use throughout the country: government service, public library service and private hospital ownership service.

The government service is the outgrowth of the work done by the American Library Association at the time of the war, which proved of such value that the government has now taken over this branch of the work. Each hospital is provided with an adequate collection of books and magazines and has its own librarian. The library itself is available to the patient who is up and about, while the bed patient receives reading matter through the ward distribution. The librarian is able to help in reconstruction work by supplying technical books and pamphlets that have a bearing on the practical training going on in the work shops. This feature of government work was well demonstrated by the Walter Reed Hospital exhibit.

The public library service developed a new phase of activity after the war, when certain librarians who had served in camp libraries desired to extend the service to civilian hospitals. Sioux City Library, Sioux City, Iowa, the first to add a hospital librarian to its staff, had a

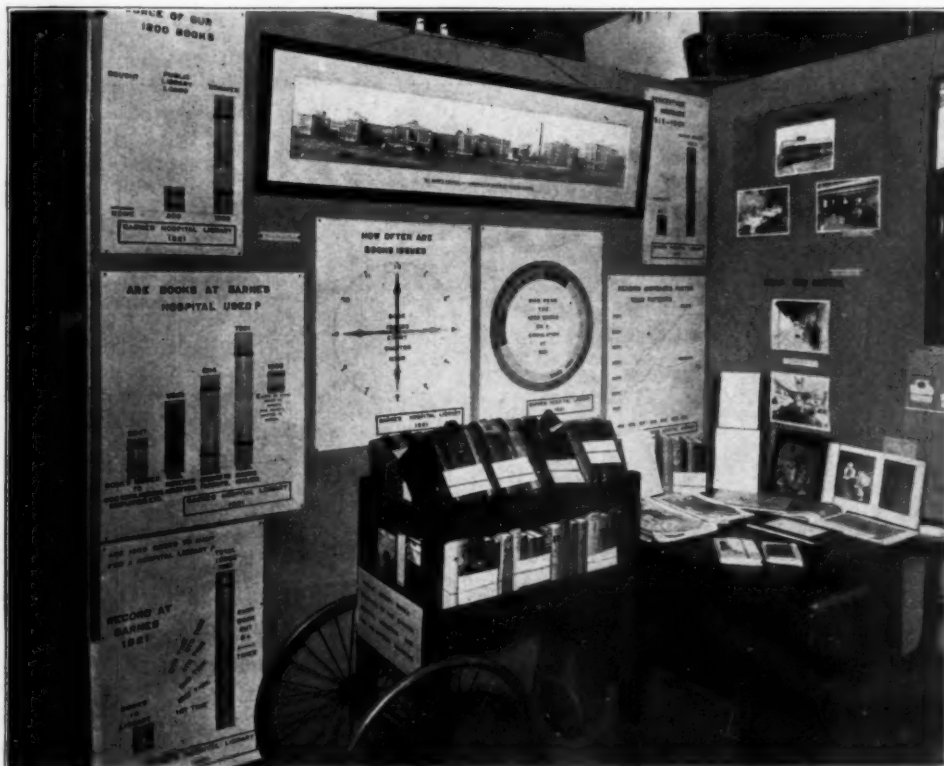
telling poster showing photographs of the library surrounded by the seven hospitals receiving its service. The general plan for such work is as follows: The public library appoints a hospital librarian and places a collection of books in the hospitals selected for this service. Once or twice a week the librarian goes to each hospital and distributes reading matter through the wards.

The hospital ownership service antedates the work in government hospitals. For many years hospitals have had books that are more or less available to patients. Generally such collections are unsupervised. There are, however, a number of hospitals with appointed librarians. The Barnes Hospital at St. Louis demonstrated this type of hospital service. The exhibit consisted of graphic charts showing the possibility of providing and distributing reading matter to patients and employes with practically no cost to the hospital. The seven graphic charts shown in the illustration demonstrate the source of books (costs), use of books and increase in the activity of the library.

A digest of the charts show there have been no books purchased. In 1921 patients' reading was one-third more than number of patients admitted; that seven-tenths of all reading is done by patients; that a book is issued every quarter of an hour in an eight-hour day; that each book if read equally in the 1,200 collection must be issued more than six times; and that the increase of patients 1915-1921 was 94 per cent while books issued for the same period increased 624 per cent.

The book truck used for bedside distribution, with titles selected from actual experience, was shown, and the entire exhibit was explained by the volunteer workers of the Barnes Hospital and a former worker in the Sioux City Library hospital service.

The Barnes Hospital Library was organized in 1915 under the supervision of the record keeper. The work of issuing books, keeping a record of the issue, and shelving books is carried on by members of the record force, who



A prize exhibit of hospital library methods at the recent American Medical Association convention in St. Louis. This exhibit represents the library service at Barnes Hospital, St. Louis.

do this along with their other work. This, with the exception of cheap cards, constitutes the only cost to the hospital, for the affiliation with the public library, donation of books and magazines, and volunteer service for ward distribution, etc., provide the books and necessary service.

Volunteer workers come twice a week, fill a book truck suitable for bedside distribution and go to the wards. The nurse in charge is questioned and she designates which patients are not to be disturbed. An attempt is made to fit the right book to the right patient. A highly nervous person would be given an entertaining but non-exciting book, while the patient suffering from a newly acquired fracture would receive any kind of absorbing and exciting reading matter that might serve to shorten the days of pain and tedium.

Honorable mention was given Miss Elizabeth Green, Barnes Hospital, St. Louis, for a demonstration of methods used in distributing books in hospitals, by the committee of awards on scientific exhibits.

THE PROPOSED WAR WOMEN'S NATIONAL MEMORIAL HOSPITAL

By MAJOR J. F. TOULOUSE, Field Representative, War Women's National Memorial Association, Inc., Albuquerque, N. M.

A national tuberculosis hospital, gigantic in conception, is being planned by former service men under government care at Albuquerque, N. M. which will cost \$10,000,000 and have an endowment of \$25,000,000. The proposed hospital will be known as the War Women's National Memorial Hospital and will honor the mothers, sisters and sweethearts of former service men in all wars.

It was among the hundreds of ex-service men who had been sent by the government to Albuquerque, N. M. for the treatment of tuberculosis that the memorial idea was born. Sixteen states have been visited on what they call their "gumshoeing campaign," and not one voice has been raised against the plan which in all its details follow.

A great central plant with forty-eight units for the forty-eight states will be erected, if the plan is carried out. Each unit will accommodate 200 patients. A central administration building will house all the offices, operating rooms and an auditorium seating 5,000 people. The accompanying photograph shows the architect's conception of the completed plant. Trost & Trost and George P. Hill, architects and engineers, have designed the structure.

The institution, modern in every respect, will cover one section of land (640 acres); the streets shown in the photograph will be one mile long. Auxiliary buildings

will be erected to take care of nurses and other help and the four buildings shown at the corners of the plant are great sun parlors and reading rooms.

It is hoped and planned by those promoting the project that the memorial will become the national center of the tuberculosis research work of the nation, and with this in mind the National Tuberculosis Association will be appealed to to furnish the staff and management of the hospital.

The first appeal for funds will be made after a national organization is perfected; this appeal will be to the ex-service men themselves.

When the national organization is completed and a committee of five men nationally known have been selected to handle the money collected (not one cent going for commission), then the American ex-soldiers of all wars will be called upon to pledge one dollar for five years. It is estimated that 3,000,000 men, or half of the ex-service men of America will respond, making a total from this source of \$15,000,000.

After that \$20,000,000 more will be asked of the people, making in all \$10,000,000 for the plant and an endowment fund of \$25,000,000.

Any ex-service men or his dependent will be eligible for treatment in the hospital, according to the plan. In each state the ex-service men's organization will be the clearing house for that state's quota of patients. Just what the council of administration will decide on in the way of charges has not been fully determined, but it is the opinion of those who have been promoting the work that a charge of one dollar a day should be made, the earnings from the endowment fund to take care of all deficits after the money obtained from this charge has been expended.

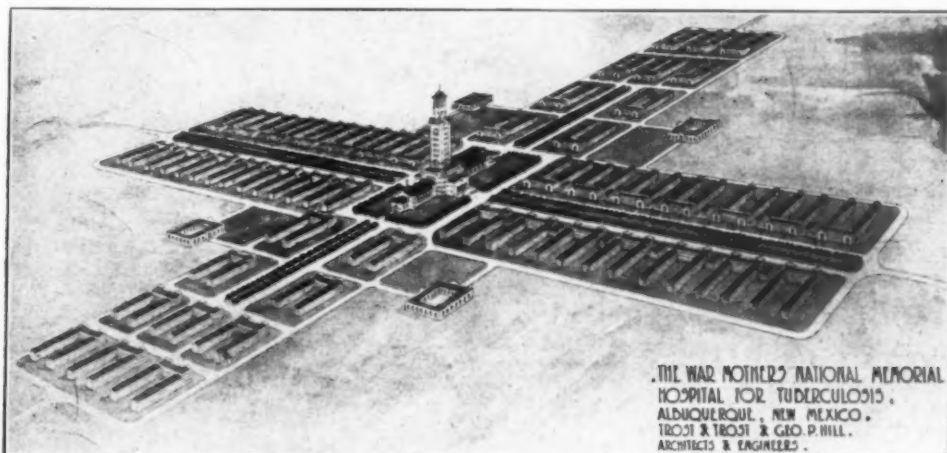
The council of administration will consist of forty-eight trustees, one from each state, out of which a working organization of seven will be selected. This council will upon the advice and recommendation of the National Tuberculosis Association (if such advice can be obtained) select and employ a superintendent and such assistants as are necessary to conduct the work of the hospital.


Religion or politics will play no part in the building, organization and management of the Memorial Hospital.

HEALTH EXHIBIT IN SMITHSONIAN

The National Committee on Exhibits Showing Advances in Sanitary Science has recently been formed in Washington, D. C. for the purpose of collecting and preparing material for a great popular public health exhibit in the Capitol. The members of the committee include:

Surgeon General H. S. Cumming, U. S. Public Health Service, chairman; Dr. D. B. Armstrong, National Health Council; Miss Mabel T. Boardman, American Red Cross; Surgeon M. W. Ireland, U. S. Army Medical Corps; Dr. Victor C. Vaughan, National Research Council; Dr. C. D. Walcott, Smithsonian Institution; James A. Tobey, National Health Council, secretary. Space for the proposed exhibit has been placed at the disposal of the committee by the Smithsonian Institution, which is visited by more than 500,000 persons yearly.





The
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THE HOSPITAL EXECUTIVE OF THE FUTURE

IN the concluding sentence of its admirable report, abstracted on pages 1-6 of this issue of *THE MODERN HOSPITAL*, the committee on the training of hospital executives records its conviction that any thoroughgoing plan for the training of hospital executives must include the development not only of efficient leadership but also of our knowledge of organized community efforts looking toward the prevention of disease and the conservation of health. This is the two-fold, inspiring goal which must serve as the controlling force in molding and, as time opens wider vistas of service, remolding an effective plan for the training of a high type of leadership in hospital and public health affairs which will, in the words of the report, "carry with it dignity and influence for good which challenge the highest degree of imagination and ability."

It is not enough that the efficient hospital executive of the future shall know merely how to operate his own institution efficiently, essential as that may be; he must so integrate his hospital with the community as to enable it to play an important role in any program of community health that may be inaugurated.

A thoroughgoing plan for the training of leaders of this type has never been fully formulated.

The hospitals here and there that have hitherto trained hospital executives (we have no thought of belittling their efforts), have invariably followed plans that sought to develop superintendents capable of operating an institution narrowly conceived, rather than directors of coordinated programs of community health service. Nor does the committee's report attempt to formulate a plan for the training of such leaders. It merely gives a list of the major topics for their theoretical training "largely in an attempt to present something concrete and to designate the relative importance of each for a symmetrical preparation for hospital administration." The formulation of the plan is the work of the future. It cannot burst full blown from the brain of any one individual. Time and the contributions of many minds alone will bring it to full maturity. It will not be static; it will grow as the hospital grows. But the committee's report puts the plan of training at scratch and stakes the course. That, however, is something; a great deal in fact. Yet much, very much, remains to be accomplished.

But with all its inspiring idealism, the report does not wholly ignore the vital, though perhaps relatively less important, subject of the future training of the hospital superintendents now actually at work in the fields, pioneers many of them, who, often at great odds, have rendered a splendid service. Many of these will jump at the opportunity to take unit courses of a curriculum established on a university basis, whether through correspondence, institutes or by resident work during a brief leave of absence.

All in all, the report draws an inspiring picture of the hospital executive of the future and suggests a plan for his development. Which of our universities will be the first to undertake the task?

HOSPITAL SUPERINTENDENT, KNOW THYSELF

ORGANIZATIONS are like water; they cannot rise above their head. A hospital or other institution which is administered by a broad-gauge, kindly mind is pretty apt to be a broad-gauge place. The courtesy, the humanity and the spirit of service, no less than the business accuracy, the desire for the real advancement of the work in hand and the maintenance of high standards pervade the entire institution, if the head thereof is possessed of these qualities.

It is equally true that if he is slovenly in his mental and physical habits, if he is discourteous and overbearing, if he is a petty tyrant, an egoist or a recessive, these traits will be reflected throughout whatever organization he may head.

Personality, to a certain extent, is a matter of environment and upbringing but, more than these two factors, individual thought is a great element in determining whether a man shall be slothful or overzealous, easy-going or officious, careless or meddling. The true appreciation of the rights and weaknesses of others comes from within. True charity and kindness, grouchy meanness and mental sadism come equally from the heart.

It is quite as true also that the correction of mental faults and the expansion of pre-existing good habits of mind are both in the hands of the individual himself; that he may alter or change these at will, if he will but will. Unfortunately, most of us are so blinded by the dazzling light of our ego that we cannot see wherein we may bring about improvements; in fact the thought never enters our minds that there is any need for a change. Perhaps we have reached mature age before the idea is finally rudely forced upon us that improvement is not only desirable but actually necessary. This is usually extremely painful but there is always the chance of seeking relief in the belief that one is too old to change, that the mental joints have ankylosed and that the best remedy is a mental strut to hide the mental limp.

But this is fallacious, for having discovered a mental fault, whether it be a domineering pettiness which makes everybody in the shop despise the superintendent or an invertebrate wishy-washiness which kills the respect which every employe should have for his chief, it is possible to correct the evil by a personal stock-taking and a genuine intention to eradicate the noxious habit and to cure the wound which its uprooting has made.

There is no class of institution which reflects more accurately the personality of its head than a hospital. The relations of the superintendent with staff and operatives are so intimate, the opportunities for close observation of the mental, moral and physical habits of the chief are so protean, that everything he does is known to everybody in the hospital. His life is a living secret of Polichinelle; his thoughts, his actions, his moods, his antagonisms are stones which fall into the shallow pool of the institution's being, there to produce ripples which spread to its uttermost rim. If he slyly infracts the 18th Amendment on occasion, he need not be surprised if some day a second cook plus a quantity of time-fuse, high-explosive, bootleg whiskey tries to chase the engineer out of the boiler room. If he is dictatorial with the head nurse, he may expect some probationer to be overbearing with a high spirited maiden lady who is scheduled post-

humously to endow a ward. If he is unduly fussy lest the general public shall injure the buildings or grounds, he may look for equal, yes greater, fussiness on the part of the citizenship when he wants an appropriation for a new wing. In other words, in the end, the punishment pretty accurately fits the crime.

Desirable and possible as cure is, prevention is equally possible and even more desirable. The prime requisite to both is diagnosis.

One of the surest signs of an unhealthy mental outlook on the part of the superintendent is the comportment of the other employes. Thus surliness and inattention, brusqueness and impudence in any considerable amount in the nurses and attendants are fairly pathognomonic of the superintendent's condition. The book of hospital regulations is another trustworthy sign. If it is filled with admonitions and threats, with paragraphs which are continued so that the superintendent or his sub-chiefs may at any time trip the unwary, it is a sure sign of petty oppression, of a contemptible pneumothorax of the ego. The superintendent who catches himself putting signs in the buildings and grounds, "Don't Do This," and "Don't Do That," "Violators Will Be Punished," etc., may be absolutely certain that he is cultivating bad mental habits of which he must purge himself if he is going to be a useful man in a useful job.

The manifestations of egocentricity are myriad. They vary from odd little tricks of speech or gesture or gait and curious foibles of dress to cold-blooded cynicism or boorish rudeness. The important thing is that the condition shall be recognized either by the victim or some pachydermatous friend who will ruthlessly apply counter-irritation. The encloistered superintendent rarely can do the former for himself and has few friends to do the latter. Paradoxically, the superintendent who is really onto his job gets away from it. He goes to the Rotary Club; he gets out with the biceps-worshippers at the golf course or the athletic club; he mingles with his fellowman and acquires the humanity, humility and charity which come from standing at the other fellow's point of view and which are sure prophylactics against elephantiasis cerebri, ponderosity of the self-esteem, hypertrophy of the opinion, incompatibility of the ego, intolerance of the spirit and crabbed meanness of the disposition.

But these affections are not peculiar to hospital superintendents or to plant administrators, they are liable to occur in anybody who has the direction of the movements of others. Chiefs must therefore be on the lookout for them in themselves and they must watch for their appearance

in their subordinates. The latter is not as difficult or unpleasant as the diagnosis and treatment of one's own case.

UNDERMINING EFFICIENT BUYING METHODS

IN AN editorial in our June issue under the caption "Expensive in the Long Run," we pointed out how it is necessary as a matter of self-defense for concerns doing a national business to charge to the general sales expense whatever contributions they are obliged to make as a matter of business expediency to the hospitals which are unwise enough to solicit them for contributions and how this increases the selling price of the goods to all the customers, including the very institutions that solicit the gifts.

There is another phase of this subject that calls for discussion. The practice of soliciting contributions from the jobbers and manufacturers with which the hospital deals not infrequently destroys efficient buying methods and in the end seriously undermines the institution's finances. If a hospital resorts to this method of increasing its income the superintendent, to the degree in which he is successful in this practice, will be tempted to take the easier way and dispense with care in buying. "Why worry," he persuades himself, "about getting competitive prices and looking too closely into the comparative quality of goods. Contributions from our friends the jobbers and wholesalers make it inexpedient to exercise one's judgment quite so relentlessly. Smith, Jones and Company has contributed quite generously to our work; we must keep this company's good will and clinch next year's gift by deliberately turning business its way. To the limbo with efficient buying methods!"

Clearly this is a pernicious attitude to take; it is unbusinesslike and will bring the institution that permits it to grief. Hospital superintendents who value sound business methods as well as fair play, we need scarcely observe, will not tolerate the practice of soliciting contributions from business houses with whom they deal because such practice is uneconomical, unfair and unbusinesslike.

AN INTERPRETATIVE SERIES ON FORMS AND RECORDS

THE limited amount of time which the committee on hospital forms and records of the American Hospital Association had to prepare the report they submitted at the association conference at West Baden last September made it impossible to include any great amount of inter-

pretive matter explaining the various forms included in the report and methods of using them efficiently. Our readers, therefore, will be glad to learn that in this issue (page 39) we begin the publication of a series of four papers prepared by the committee, in which the various forms and their uses are elucidated.

The first paper deals with the administrative records of the hospital; the second and third, both of which will appear in the August issue, deal with the records pertaining to hospital accounting and purchase and issuance; the fourth, the subject of which has not yet been announced, will appear in the September issue.

We bespeak a careful study of these papers in conjunction with the committee's report by all superintendents who are interested in improving this phase of the administration of their institutions.

NEW YORK AS A HOSPITAL CENTER

ON page 45 we publish that part of the summary of the study of hospitals in New York City by the Public Health Committee of the New York Academy of Medicine which gives a general idea of the extent of hospital facilities in New York City and their distribution by services. It is a most interesting and helpful presentation of facts and points out the difficulty of gauging accurately the hospital needs of the community by types of services because of the lack of morbidity data.

When the study is published in its entirety, it will undoubtedly be a most valuable contribution to the elucidation of hospital problems. Dealing as it does with the hospital situation in New York City, it is concerned with one-twentieth of the hospital field in the country and one-tenth of the hospitals of the fifty larger American cities.

Incidentally, we would like to call attention to the wide ramifications of the educational work of the New York Academy of Medicine under whose auspices the study has been made. Its work, although extensive, is chiefly of a local character and is perhaps for that reason not sufficiently well known to our readers outside of New York City.

The Academy was founded in 1847 and its aim, since its inception, has been the advancement of the science and art of medicine and the promotion of public health. The educational work is carried on directly by the twelve sections corresponding to the several specialties in medicine and surgery, and indirectly by the various agencies which have come into existence as a result of the activities of the Academy. The library which is said to be the second largest in the country is open daily to the public until 2 p. m.

In addition, such organizations as the Society for the Advancement of Clinical Study and the New York Association for Medical Education are domiciled in the Academy building and have the cooperation and good-will of the Academy.

The fortnightly stated meetings of the Academy, as well as the meetings of the sections, provide an unusual opportunity to the medical profession for post-graduate education.

The public health work is done through the Public Health Committee which has a unique and enviable record of uninterrupted work and achievement. It is composed of thirty leading medical men, who for the last eleven years have continuously given their time and thought to this work which is carried out by an executive committee. This committee meets every Monday throughout the year. The achievements of the Public Health Committee would probably fill a good sized volume. Only a few can be mentioned here.

It was through the Committee that the Associated Out-Patient Clinics of New York City was organized in 1912; this was the first association in this country that endeavored to formulate standards for the various types of clinics. Later on the Health Federation of the City of New York came into existence and functioned effectively for a number of years. As a result of the dispensary study in 1919, a Committee on Dispensary Development was established and several months ago, following the survey of hospitals, a Hospital Information Bureau was organized.

The methods of work of the New York Academy of Medicine and its achievements are worth the serious consideration and emulation of other medical bodies throughout the country.

FOR PSYCHIATRIC NURSES

FOUR years ago the Illinois State Department of Public Welfare established at the Chicago State hospital a school of psychiatric nursing.

The school was approved by the state licensure board. Special quarters for pupils and for classrooms were provided in a new home for nurses on the grounds of that institution, where is also located the State Psychiatric Institute.

The school offers a three-year, an affiliated and post-graduate courses. Pupils are paid from \$18 to \$22 per month and furnished board and room. The nurses' home is new and modern in every respect. Opportunities for surgical, medical and bedside instructions are good. Pupils of this school may obtain training in obstetrics and children's diseases in general hospitals. Pupils in general hospitals may have a year at this school for instruction in nervous and mental diseases. The

plan was approved by all those interested in the development of the nursing profession.

The school has had uphill work to get pupils and students. During the war it existed with a few post-graduates and affiliates. Now a determined effort is being put forward to enlist pupils for the three-year course.

Indifference or opposition has been met among some of the general hospitals. Others make promises of co-operation. The southern end of the state has been very well combed for candidates. An effort is now being made to arouse interest in the north. Appeal has been made to womens' clubs and medical societies for assistance in getting pupils. Efforts bring out only a few pupils.

Evidently psychiatric nursing is going to have rough sledding in Illinois and probably in every other state. Among those who contemplate nursing as their profession there appears to be a dread of the mental patient or a doubt that a state hospital can give adequate training.

While no difficulty is experienced in obtaining plenty of women to act as attendants, even on male wards, it is very difficult to induce better educated women to give their talents to the assistance of the mental and nervous sick.

The fact should not be lost sight of that a nurse who has had psychiatric training will eventually attain a rank higher than that occupied by those who have not had it. For instance the young woman who can care for surgical cases in a mental hospital where she receives no cooperation from the patient ought to be far better qualified to care for sane surgical cases where the patient will co-operate. The same is true all through the category of sickness and disease. Ability to handle successfully mental cases suffering from physical illness must be a great value in general practice.

The idea that the state hospital cannot furnish training must be removed. Many of the states are developing these institutions to a point where nearly every specialty may be taught. Psychiatric nursing will stimulate this tendency. It merits the encouragement of the leaders in the medical and nursing professions.

Someone has advanced the opinion that the letter "e" is the most unfortunate character in the English alphabet because it is always out of cash, forever in debt, never out of danger and in hell all the time. For some reason he overlooked the fortunes of the letter, so we call his attention to the fact that "e" is never in war and always in peace. It is the beginning of existence and the end of trouble. Without it there would be no meat, no life, and no heaven. It is the center of honesty, makes love perfect. It is the beginning of eternity, the end of time and space. The beginning of every end and the end of every place. And without it there could be no editors, devils, nor news.

AIR SPACE PER PATIENT AND SOME FACTORS THAT INFLUENCE ITS DETERMINATION

THE question of the cubic feet of air space that should be allowed hospital patients is a constantly recurring one, and it constitutes a problem on which expert opinion is still at rather wide divergence. Believing that the factors of temperature and humidity must be involved in such a computation, in addition to the pure mathematics of ventilation, THE MODERN HOSPITAL recently sought opinions on the subject from a number of recognized health workers, physiologists, physiological chemists and hospital architects. Particular consideration of the problem of atmospheric conditions in wards was requested since on that hinges also the important question of preventing droplet infection.

Dr. Emery R. Hayhurst, professor of hygiene at Ohio State University College of Medicine, regards cubic space in hospitals or elsewhere, in the question of ventilation and atmospheric conditions, as quite subordinate in importance to the three fundamental physical factors of temperature, air movement and humidity. He further considers the chemical factors of air vitiation by exhaled breath or lack of so-called "fresh" air as also subordinate to the above mentioned physical factors.

Thinks Chief Factors Are Physical

"In fact," writes Dr. Hayhurst in this symposium, "I would place good natural *lighting* in hospital rooms ahead of the vitiation and 'fresh' air questions, although I would not be quoted as advocating the re-breathing of 'old' air to an unlimited extent. Several changes per hour is advised.

"In contagious hospitals, the amount of cubic space or, better, square feet of space, has relatively more importance than in other hospitals. In reality distance between beds is the critical point so far as atmospheric conditions go; the idea being to prevent transferred 'droplet' infection. Here twelve to fifteen feet between beds should be allowed in open wards with good daylight lighting (defined as from 40-foot candles on cloudy days to several thousand on bright days), or, where screens are provided between beds in wards, beds may be as close as four to eight feet with safety. The only real place where space is a question is in the prevention of "droplet" infection or actual contact between patients in the wards of the contagious hospital. In the usual hospital, the necessarily inactive patient who is without either fever or subnormal temperature, should be in a room temperature vacillating hourly between 68° to 72° F.; in a gentle air movement (0 to 2 feet per second) constantly pulsating or changing in direction and velocity as may be produced by a slow speed, quiet-running electric fan of the oscillating type located in the room or by baffled window ventilation and vents; and, with these conditions, a wet-bulb temperature hovering between 5° and 10° F. below the dry-bulb thermometer reading. I regard the thermometer as the only instrument actually necessary, however, if the physiological sense impressions of room 'freshness' on the one hand or 'stiffness' on the other are not noted upon entering the room and also after remaining in it for a time.

"Invariably the patient with fever should have a cooler room (60° F. if possible) with probably twice the air movement and about the same depression of the wet-bulb thermometer as just stated.

"The patient in shock, or with subnormal temperature, the 'weak' patient, or one while undergoing ether anaesthesia, (the latter particularly if for more than half an hour) should have the benefit of the normal conditions as stated for the patient without fever, plus handy arrangements for local heat to extremities and perhaps along the body, the amount to be gauged by the condition of the patient. In other words it is to be regarded as detrimental to 'hot-house' his whole environmental atmosphere simply to keep him warm. He needs the cooler atmosphere to play on his cheeks, face and neck and for breathing.

"Unquestionably the amount of the patient's skin surface exposed to the air of the room is a very important factor; any condition of 'slump' calls for more covering, especially if the auxiliary thermometer is also depressed.

Cubby Hole May Be Safe as Pavilion

"With these conditions observed I think it matters little whether space per bed is as low as 50 cubic feet, as it sometimes is in the bunk quarters of the naval vessels, or as much as 1,000 or 10,000 cubic feet. One may be just as atmospherically safe in a 'cubby hole' or closet, as in a great auditorium or pavilion. In other words it is a question of correct air conditioning and not cubic space. The large room is just as liable to bad air and conditioning as the small one. In fact it is more apt to be overlooked in the large room.

"In conclusion I would say that I am convinced many hospital rooms and wards—from the operating room to the recovery and convalescent quarters—are hazardingly, although slightly, overheated with motionless air and that this greatly contributes to metabolic depression, as Leonard Hill so well states in his discussion of the physical factors of ventilation. As a minimum, I think every operating room and patient's room should be equipped with a reliable thermometer suspended from about the center of the room (not against the wall) and that nurses, from 'probationers' up, should be drilled to maintain temperature conditions within the suggested limits.

"More patients suffer from depression, thermic fever and some degree of heat prostration or heat exhaustion, due to a combination of high temperature, still atmosphere and excessive covering in the operating room and the hospital bedroom than is customarily given any thought. For instance, while in the operating room patients are usually closely covered from head to foot including scalp to which is added the anesthetist's mask covering most of the face (the face is the last safety valve in the mechanism of body temperature regulation), while operators, assistants and nurses in loose-flowing, short-cut gowns, perspire vigorously in spite of the square feet of skin surface exposed. What of the patient? It cannot be said that ether anesthesia demands this because of the great cooling effects of ether as it evaporates, for this effect is much too local, upon a limited portion of the nose and mouth, and is practically negligible in the modern gas-ether administration methods in which evaporation of ether is reduced to a minimum and is frequently at a distance from the patient; in fact it is often so slight as hardly to be noticed in the air of the operating room. Winslow and Greenberg say 'the commonest evil' is the room air of work places is the 'slight but

highly objectionable overheating'; while George T. Palmer considers this condition in school rooms one of the certain factors productive of respiratory affections. Also 'in an unvarying atmosphere,' says Palmer, 'the occupants miss that pleasant stimulative effect.'

"In my own experiments in air-conditioning the home,* I found that a temperature in my study of as low as 60° F. with proper humidity (50 to 60 per cent) and just perceptible air movement was, for hours at a time, a pleasantly invigorating environment and needed simply moderate variations to simulate a balmy spring day, or the cooler days of summer when, it will be noticed, even the hospital fails to provide artificial heat.

"It seems to me that anesthetists, surgeons and physicians should take the evidences already at hand for what constitutes a healthful atmosphere and aim at the temperature optimums which correspond to the three common conditions of metabolism (increased or febrile, normal and subnormal—the latter fortified by heat locally applied) and dismiss the bugaboo of 'cubic feet of space.' We are constituted to be so sensitive and responsive to physical air conditions that I regard them as of major importance in the recovery of patients from the first to the last day of hospitalization."

Clean Air Is the Necessity

"A minor detail in hospital ventilation" is the way E. Vernon Hill, acting chief of the bureau of sanitation, Chicago Department of Health, characterizes air space in its relation to hospital patients.

"It might be properly asked," says Mr. Hill, "how and to what extent does the air space per patient affect the air conditions therein, but as the air space itself in only one of a large number of factors too great emphasis should not be placed upon it.

"Most legal regulations are on this basis, but in the present state of our knowledge regarding the actual factors that influence and control air conditions it is clear that the standards at this time should be based on air cleanliness and the wet bulb temperature and not empirically on the cubic foot of air space per patient. Legal requirements for hospitals in the Chicago Code are as follows:

"Section 1218—Accommodations for patients—Regulations as to sanitation. In every such hospital each room occupied or to be occupied by patients shall be of such dimensions as shall give each patient not less than 800 cubic feet of air space. Every such room shall have at least one window connecting with the external air for each two beds. Said windows shall be of such dimensions as shall secure to each patient at least 2,400 cubic feet of fresh air per hour by natural ventilation. Or in case said window shall not secure 2,400 cubic feet of air space per hour by natural ventilation then each room shall additionally be fitted with such appliances for ventilation as shall secure to each patient in said room at least 2,400 cubic feet of fresh air per hour," etc. etc.

"The ventilation requirements as set forth in the preceding ordinance are to a large extent a dead letter, by reason of the fact that it is impossible during cold weather to obtain 2,400 cubic feet of air per hour with the windows as provided in the first part of the section referred to; in fact it is impossible to do this with safety and comfort no matter how many windows are provided. Public opinion does not at the present time countenance the enforcement of the provisions requiring mechanical ventilation in hospitals.

"When modern hospital management has reached a point where it gives as much thought and study to the air conditions maintained in a hospital as it does to the practice of asepsis, personal hygiene, dietetics and other preventive and therapeutic measures we will have provisions in every properly designed institution for maintaining

the correct wet bulb temperature and for supplying the proper amount of clean air. The cubic foot of air space per occupant will then be governed largely by economic or esthetic considerations."

Should Have Ordinary Air Conditions

Dr. C.-E. A. Winslow, professor of public health, Yale University School of Medicine, considers from two viewpoints the cubic air space in hospitals: maintenance of ordinary atmospheric conditions and prevention of direct spread of infection. "It is clear from all the work of recent years that the essential thing is the maintenance of a temperature not above 68° with a moderate but not excessive air movement," says Dr. Winslow. The cubic space from this standpoint is a problem of very minor importance, as no one would, I imagine, today dream of crowding hospital patients so closely together that the heat produced by the vital processes could not be removed by the necessary air change.

"The other question is the question of the direct spread of communicable disease from bed to bed, and from this standpoint the army experience showed that the placing of beds too close together was of very distinct importance. The frequency with which carriers of hemolytic streptococci and other possibly dangerous mouth bacteria are found makes it necessary to observe the general principles that were worked out in the army hospitals in England and this country during the war."

Sees Many Contributing Factors

Air space per patient can best be decided in relation to humidity, temperature control and air replacement, according to J. Howard Beard, professor of hygiene at the University of Illinois.

"The mathematics of cubic air space per patient in hospital wards," he declares, "is inextricably associated with cost of construction, administrative efficiency, temperature, humidity, air motion and cross-infection in its widest sense. With so many factors operative, the air space to be allotted to each patient may best be decided after determination of the facilities provided to insure humidity, temperature-control and air replacement. Eight hundred cubic feet per patient with adequate arrangement for provision of moisture, air exchange and temperature fluctuation is preferable to 1,200 cubic feet without the presence of these conditions in proper proportion.

"The cubic air space of a ward is also influenced by the closeness of the beds and range of droplet infection. While disease may be air-transmitted for a considerable distance under extraordinary conditions, the great danger zone is usually limited to four or five feet. This means locating beds about eight feet from center to center. Where they are placed on both sides of the ward, an eight foot aisle would be in the interest of the efficient care of the ward and of the patient.

"The average hospital bed is six feet six inches long. If one foot six inches is allowed for space between head of bed and wall, eight feet from center of one to that of another, and an eight foot aisle between rows of beds, each will require ninety-six square feet of floor space and about twelve hundred cubic feet (1,152) if the ceiling is twelve feet high.

"I should be inclined to favor a large rather than a minimum cubic space, because, other things being equal, the air is more likely to be healthful. It would give an elasticity to the ward in case of emergency. It would tend to limit cross-infection of communicable disease, usually not treated in isolation. It would facilitate care of the

**Jour. Am. Soc. Heat. & Vent. Engineers*, xix, 1, 1-14 (Jan., 1919); also *THE NATION'S HEALTH*, Vol. III, No. 10, Oct. 15, 1921, pp. 577-581.

patients and of the ward; it is particularly desirable where it is used for bedside teaching of medical students."

Thinks Temperature Is the Thing

Room temperature is the big thing in ward ventilation is the opinion of **Dr. George T. Palmer**, epidemiologist of the Detroit Board of Health. With the room temperature correct, humidity need not be so carefully considered.

"It is the distance between beds in hospital wards which should largely determine the space requirements," says Dr. Palmer. "Allowing ample aisle space and four feet between beds there would be required about 100 square feet per bed. With twelve-foot ceilings this would give a cubic space allotment per bed of 1,200 feet. This would be a desirable arrangement. Some of the tables shown in text books call for from 600 to 1,200 cubic feet. The object of adequate spacing between beds is to prevent patients from coughing in each other's faces and from disturbing one another.

"Still more important than the cubic space is room temperature. Hospital wards can be adequately ventilated from the windows by placing radiators beneath the windows and deflectors at the windows. The deflector and the rising heat will direct incoming air upward. Except in those special cases where cool air may be contra-indicated, such as with nephritis, the room temperature may well be kept within the range of 62 to 68. It is my personal feeling that at these temperatures it matters little as to the humidity. In the wards for infants somewhat higher temperatures will probably be necessary. With very young infants, where temperatures around 80 are needed, the humidity question is of more importance. Here we should probably find by experiment that the addition of moisture up to 50 per cent relative humidity would be better than humidity around 20 per cent.

"From personal observations made in the wards of Walter Reed Hospital in 1918, where the square feet of floor space averaged 60 and the air space 700 cubic feet per person, there was ample air flushing, comparative freedom from dust and frequent overheating. In other words, the temperature factor was more open to criticism than any other. Carbon dioxide averaged less than 6.5 parts per 10,000, temperature, 69. There were many instances of temperature rising above 75°. The close, stuffy room is an overheated room. Lower the temperature below 70 degrees and the stuffiness automatically vanishes. The cause of the overheating was not the lack of open windows, but the failure to close the steam radiators. Every hospital ward should have large, readily visible thermometers. This is the most important yard stick with which to measure ventilation."

1,000 Cubic Feet Is Minimum

Dr. Mazyck P. Ravenel, professor of preventive medicine, University of Missouri, would place 1,000 cubic feet of air space per person as an absolute minimum, with 2,000 cubic feet as desirable. So many factors contribute to the determination of the exact space, that no positive statement can be made, he declares. Of the factors to be considered, Dr. Ravenel says:

"The question of ventilation is largely one of heat removal and regulation of moisture. While an excessive amount of CO₂ or a deficiency of O is not permissible, these factors do not play a large part in ordinary rooms. In order to attain the objectives mentioned, without discomfort to the patient, there should be a minimum of 1,000

cubic feet of space for each person, with a floor space not less than 80 square feet. These are the minimum requirements, and it is far better to have as much as 2,000 cubic feet of space for each patient. So much depends upon the shape of the room, the system of ventilation, the system of heating and the efficient management of these systems, that it is difficult to make positive statements as to the exact space required. We should err on the safe side and give an excess of space rather than too little.

An Architect's Viewpoint

An architect's conception of the debatable problem of air space cubage, temperature and humidity required for the ward patient is given in the following statement made in this symposium by **Richard Resler** of the firm, Resler & Hesselbach, architectural and consulting engineers of New York.

"All wards as a rule have windows on both sides and end which, due to prevailing winds, induce cross ventilation. The windows should begin at the ceiling and extend down to as near the floor as possible, having transoms at the top with draft boards on the sides of transom sash and a draft board at the bottom of the window which will deflect the air currents upward. The radiators should be located under the window sills. Thorough consideration, of course, must be given the surrounding buildings, sunlight exposure and prevailing winds.

"As to the cubage of air space required per person in an open ward medical authorities differ. A space of five feet between the beds and a ceiling height of twelve feet (which appears ample in view of the fact that the breathing height in bed is three feet) would give a cubage of approximately 1,400 cubic feet, although there is no basis for this assumption except to maintain an eight-foot danger zone about the patient.

"Here again, in actual practice, this cubage will be increased or reduced due to the census fluctuation inherent in a hospital. The actual cubage in an overload would amount to about 1,200 cubic feet.

"Natural cross ventilation for wards attained by the proper location and design of windows, assuming that the proximity of adjacent buildings is not a menace, and a minimum air space cubage for ward patients of 1,200 cubic feet appears logical."

Prefers Natural Ventilation

Natural ventilation, rather than any artificial arrangement, is also found preferable by **William D. Crow** of the New York firm of architects, Crow, Lewis & Wick. Regarding cubic air space per patient, Mr. Crow asserts:

"We do not think that the number of cubic feet of air per person in any hospital unit is of much importance, after a certain reasonable minimum has been provided or exceeded, just as would be proper in any other space intended for human occupancy. We have seen a great deal of specific data as to the volume of air which should be provided for each patient but none of it has convinced us that the matter is removed from the necessity of using common sense and experience rather than mensuration.

"No one would think of providing air-tight spaces for patients, in which they would be confined without further air supply, even if several thousand feet of air were provided for each patient. Ventilated spaces are the alternatives, and as these are passages for air, so long as the ventilation is maintained, it does not seem vital that the spaces should be a few hundred feet more or less in volume."

ADMINISTRATIVE RECORDS FOR THE HOSPITAL*

THE report submitted by the Committee on Forms and Records of the American Hospital Association at the 1921 convention was presented with the idea of furnishing definite data that could be used as a basis in establishing more uniform methods of recording the various activities of our institutions and of thus rendering hospital statistics of all kinds more readily comparable.

A number of basic principles were enumerated. The scope of the report and the time occupied in presentation prevented any extensive discussion of its contents at the convention. For this reason, because of the nature of many inquiries and to recall attention to the subject, a series of four papers (of which this is the first) has been prepared. While these articles will be explanatory in nature they should also be considered in connection with the report inasmuch as frequent reference will be made to its contents.

Under Division C of the report a group of records were included which for lack of a better term were designated as Administrative.

The records outlined under this heading are necessary in order to provide a basis for computing the amount of work done by the institution, for correlating financial, vital and professional records and consequently for the determination (in part) of the per capita per day cost.

Admitting Service Records

Under Admitting Service were grouped those records that have to do with the patient's admission to the institution. The information concerning this phase of work is necessary for medico-legal purposes and is often the starting point for social service work.

The records made should indicate the method of approach to the institution, whether by previous reservation of accommodations, because of some emergency, etc. They should further detail the admission to the hospital, assignment to hospital and professional division, noting legal commitment, etc., and the method of caring for the patient's effects, such as clothing and valuable papers.

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The records pertaining to the discharge of any patient should portray in brief form the facts that the professional records are complete; that the "follow up" has been originated; in case of release, that the commitment has been satisfied; or in case of removal against advice, that all responsible parties are informed of the circumstances. They should show that the patient's effects have all been returned or are properly accounted for; that his financial obligations have been satisfactorily adjusted. In the event of death, the records should show what effort, if any, has been made to secure a post-mortem examination; that the official death certificate has been originated and filed with the proper authority; and that the

disposition of the body has been made upon the order of some responsible individual.

The records included under Information Service are of the utmost importance for they furnish the basis for contact between the hospital and the relatives and friends of the patient. They need not be extensive but should in every instance be accurate. They should furnish the information clerk promptly and continuously with such data as will enable her to establish sympathetic and cordial relations with those inquiring concerning the patient's condition and progress. Careful attention to this service, in order to keep it at the highest level of efficiency, is one of the best methods of establishing favorable recognition by the public available to the institution.

Another equally important service is that having to do with the admission of visitors to patients. We are of the opinion that the institution's policy toward visitors should be a liberal one because it is one method of popularizing the institution, but we believe that a definite mechanism of control should be provided in order that abuses may be restricted to a minimum and that no harm result to any patient.

Some General Service Records

Under the heading of General Service are grouped a number of records, chiefly temporary in type, that concern procedures not readily assignable to other divisions. Among these are the following:

Internal transfer of patients: A brief temporary record of the transfer of the patient from one hospital or professional division to another is essential for the purpose of furnishing prompt data to information clerk, book-keeper, dietitian and other department heads interested.

Ward census: This record is a most important one and should be returned at a specific hour each day. Its correctness must be verified daily and certain data should promptly be posted to the more permanent records. This record should be made in order that the administrator and all others concerned may have accurate and reliable information concerning the population of the hospital, and that it may serve as a basis for reservations and assignment of patients admitted. It is the basis upon which the number of "days' hospital care" or "days' treatment given" is compiled and it is therefore an essential record in the financial department.

The formula cited on page 15, under C-4-B, is in very general use and is well adapted to the purpose. It will be discussed in greater detail in a subsequent paper.

Employment and employes record: It is probably not essential that this record be maintained. Hospitals are finding, however, that in order to develop and retain an efficient working personnel, it is necessary to pay more attention to the selection of employes and the manner in which they perform their duties. Brief records concerning them are therefore very desirable. These furnish a means of ready reference when inquiries concerning former employes are received and also furnish a definite basis upon which policies toward individual members of the organization may be developed.

Attending and house staff register: This is also a non-essential but highly desirable record. It furnishes a means of checking the attendance of staff members and is frequently referred to when inquiries concerning them are received, and in many other ways has been found of great assistance in many institutions.

*This article prepared by, A. C. Bachmeyer, M.D., F. E. Chapman, and John Bresnahan, M.D., is the first of a series of four which will appear in succeeding issues of THE MODERN HOSPITAL, supplementing and interpreting the report of the Committee on Hospital Forms and Records which was made at the twenty-third annual meeting of the American Hospital Association in September, 1921.

Operating room schedule and reservation: This is another "non-essential" record, but particularly in those institutions where surgical work predominates and where a number of surgeons are being served, it has been found a very helpful means of avoiding difficulties among members of the professional staff.

Medical Record Service

Under the heading of Medical Record Service there are included several forms. Primarily an alphabetical index to patients' names, diagnosis and complication, and follow-up cards. These records should not be confused with those set up under Professional Service.

It is not intended that the alphabetical index to patients' names referred to here be duplicated elsewhere in the general offices. But whether the professional records are filed by admission or discharge number or by classification of diagnosis, an alphabetical index to patients' names will be necessary as a key to those files.

Diagnosis and complication cards will provide better access to the professional records for purposes of research and study. Many institutions have been keeping records of professional performance for many years, but have filed those records in so inaccessible a manner that physicians and surgeons have found it to be almost impossible to get at them. The lack of a uniform or standard nomenclature and classification of diseases has also militated against the use of many of our professional records. The tendency at present is toward more frequent reference to this data and it is to be hoped that considerable progress in methods of classification, nomenclature and filing will be made so as to make use of the vast amount of recorded experience in the diagnosis and treatment of disease confined in these records. They may also be used to improve the statistics concerning morbidity thus furnishing public health workers with more reliable data.

Reference has not been made except in one instance to any particular form of chart or card. Samples of practical forms to cover any particular phase of work, which are now in use in many instances, accompanied the report.

It is not argued that those particular forms are best for the purpose or that they will apply in all instances, but they are submitted with the hope that because they offer a more uniform method of recording data they will come into general use and that, if uniform methods of recording information are used, the statistics compiled from such data will be more comparable and of greater use to all hospitals.

TUBERCULOSIS SCHOOL AT OTEEN

A tuberculosis school similar to that held last year was conducted by the U. S. Public Health Service from June 1 to 30 at the government sanatorium in Oteen, N. C. The class consisted of thirty medical officers and thirty nurses, drawn for the most part from other service hospitals. A few others identified with tuberculosis work in different parts of the country, although not employed by the government, were admitted.

The first school, which graduated twenty-two physicians and nineteen nurses who had been carefully selected from the sixty-six hospitals of the Service, was patterned after the summer school at Saranac Lake, N. Y., with necessary adaptations to the special work required.

Oteen Hospital, with a capacity of 1,100 beds, is near Asheville, N. C., and is conducted especially for tuber-

culosis patients. This delightfully situated and easily accessible sanatorium was built during the war by the Army and was later turned over to the Public Health Service. It is in close proximity to the Public Health Service Hospital at Biltmore.

DENTAL CLINICS IN HOSPITALS AND DISPENSARIES*

1. Dental service is an essential part of the work of a general hospital, as an element in complete diagnosis, and as a treatment need of many patients.

2. A dentist competent as a dental diagnostician should be recognized with adequate rank on the staff of the hospital, and should be given the necessary facilities, such as access to the x-ray and to beds when necessary.

3. The primary responsibility of the hospital in dental care is the dental diagnosis of patients whose mouth conditions are involved as a factor in the disease for which the hospital accepted these cases, and for whom dental treatment is necessary in order that the hospital's medical or surgical work shall attain satisfactory results. In other words, a hospital cannot carry out adequate diagnosis and treatment without undertaking dental diagnosis, and in some instances dental treatment also.

4. A routine dental examination of hospital cases should be included as part of the physical examination.

5. Hospitals maintaining out-patient departments should include a dental clinic for treatment purposes as part of this out-patient department, unless by some definite affiliation with another accessible dental clinic the necessary dental care of its patients can be assured.

6. The service of a dental clinic as part of the hospital out-patient department must ordinarily be limited in order to avoid over-crowding. Patients should be accepted for treatment in the following order:

a. Patients already received by the hospital or dispensary, whose mouth conditions are involved in a general medical or surgical condition which the hospital or dispensary has diagnosed, and for which it has assumed responsibility for treatment.

To give dental care to these patients or to arrange for their care by definite reference and follow-up to some other institution is a responsibility which every hospital ought to meet.

b. Patients referred to the dental clinic from other medical or community agencies (such as a doctor or the visiting nursing organization) with the indication that the dental conditions are involved in the general condition of the patient.

c. Relief of pain and other emergency dental work for patients not otherwise connected with the hospital, but accepted merely as emergency cases.

d. Other patients accepted up to whatever number may be consistent with the facilities. So far as possible, this restriction should be on a district basis.

7. Dental organization in the hospital.

a. The dentist recognized as head of the dental service of the hospital should be in charge of the organization of its dental work, including the out-patient clinic.

b. Assistant dentists are desirable as visiting members of the staff of the dental clinic.

c. A dental intern is desirable, as a member of the staff of the hospital. His work cannot be confined primarily to assisting in the therapeutic work of the out-patient department, but he should be given opportunity to work in the diagnostic service with the chief of the hospital department, in order that his year of internship shall be a year of advanced dental education in both curative and diagnostic work. The supply of dental interns is inadequate, but the trend of dental education will stimulate young graduates to a hospital year, and the increasing demand for dental service in hospitals may be expected to increase also the facilities which hospitals will offer.

d. The dental hygienist is a desirable member of the staff of the dental clinic, and as an agent for cleaning the teeth of bed patients in the hospital.

e. Salaries for visiting dentists are generally necessary.

f. The dental clinic should charge fees covering cost of treatment, remitted, however, if the patients are unable to pay.

*An appendix to the report of survey conducted in Chicago by Michael M. Davis, Jr., on Community Dental Service.

Health lies in labor and there is no royal road to it except through toil.—Wendell Phillips.

SUPPLANTING THE MEDICINE MAN*

By ARTHUR E. MIDDLETON, CHIEF OF CONSTRUCTION SECTION, INDIAN BUREAU, INTERIOR DEPARTMENT, WASHINGTON, D. C.

NOT so long ago that the period and conditions are reminiscent or unfamiliar to those individuals who have aided and are still aiding in the moral, spiritual and physical advancement and perpetuation of the Red Man, the fight against disease was waged under the most trying disadvantages.

Then the Indian had just begun reluctantly and doubtfully to yield to the influences of civilization and, though accepting some of its customs, still clung with tenacious hold to the ideas and habits formed in the early history of the race and regarded with mingled skepticism, contempt and fear the white man's methods of healing the sick. When disease came upon him he stoically bore its pains and rigors and following the tribal custom would lie patiently upon his blanket while the "Medicine Man" with grotesque mask and weird incantations essayed to drive out the "Evil Spirit."

In a few short years, however, the government by a well directed policy has changed the medicine man's influence to a gradually lessening potentiality, and now the Indian stricken by sickness looks up from his bed in a modernly equipped hospital to see in place of the medicine man a solicitous and skilled physician and a neatly garbed nurse, who with words and smiles of encouragement, administer the treatment intended to restore him to his former vigorous health.

In 1888 there were but four buildings in the Indian Service designed solely for hospital purposes, but the years intervening between that year and the present have witnessed a rapid increase in the number of hospitals and

eral exceptions, in the vast region extending from the Mississippi River to the Pacific Ocean and from the Gulf of Mexico to the Canadian border. The exception referred to are the hospitals located at Carlisle, Pa., Cherokee, N. C., Mount Pleasant, Mich., Hayward, Keshena and Oneida, Wis.†

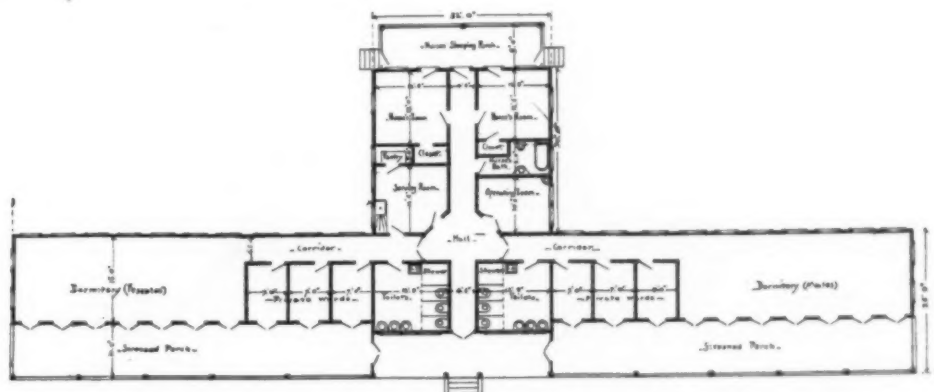
The school hospitals are designed solely for the treatment of children and the typical plan usually provides two separate wards for the sexes with screened and glazed porches adjunct thereto, convalescent ward, operating, waiting, nurses', dining, bath and toilet rooms and kitchen. At some of the larger schools, however, isolation and private wards and disinfecting rooms are provided. The agency hospitals while including the general plan, arrangement and scope characterizing the school hospitals are not all designed for the administration of the same activities; at the majority general



Indian girls' dormitory, East Farm Sanatorium, Phoenix, Ariz.

cases are treated, but several are arranged for the treatment of tuberculous cases also, are supplemented with physicians' and employees' cottages, laundry and other adjunct buildings, and in some instances with separate cottages or so called "tent quarters" for the treatment of families and individuals.

The basic consideration determining the size of the agency hospitals and sanatoriums is essentially that of the prevalence of diseases in the various tribal populations while that of the school hospitals is based upon the number of pupils. The final determining considerations of all, however, are the proposed locations and amount of money available; two factors which arbitrarily fix the cost and



Floor plan of the Indian Tuberculosis Sanatorium at Phoenix, Arizona.

a widening of their scope until now there are in operation eighty-nine hospitals and sanatoriums located, with sev-

*Mr. Middleton's article is being published in two installments of which this, dealing with sanatoriums, is the first. Part II will appear in a succeeding issue.

†The general activities and operations of these hospitals and sanatoriums are administered by a field staff consisting of a chief medical supervisor, a supervisor of hospitals and two special supervisors; the immediate activities are directed by a resident physician at each hospital or sanatorium. All, however, are controlled and directed by the Bureau of Indian Affairs at Washington, D. C.

capacity of the buildings, the former frequently entailing extremely high rates for skilled and other labor, and the latter compelling the use to a large extent of local building materials in order to keep the expense of freight transportation to the minimum. There is present, therefore, a wide variation in the selection of the materials and in the capacities, those at the schools accommodating from six to twenty beds and those at the agencies and sanatoriums from twenty to sixty. The materials used are frame, stone, brick, concrete, adobe or a combination of them. By reason of the many differences contrasting the Indian from the white race, the monetary paucity and isolated locations, conditions must be considered in designing Indian hospitals vastly different from those which influence the designing of municipal hospitals. Therefore as models of designs in orthodox architectural styles it is obvious that, with the possible exception of a small number, the buildings may not hold up under critical technical scrutiny, but as examples of the results accomplished in the face of the handicaps cited, the majority of them are interesting examples of economical but substantial construction, inoffensive appearance and utilitarian purpose. There are, however, many points along the general trend of treatment, particularly in plan arrangement, scope of activities and details of construction in the sanatoriums and the larger agency hospitals which will draw the interest of architects called upon to design buildings and plants for municipal and private interests.

Have Been Economically Constructed

It is the purpose of this article to treat more fully of the sanatoriums and agency hospitals than of those at the schools, but it is believed that the inclusion of some of the larger and comparatively more recent hospitals at the schools will prove of more than passing interest, and with this consideration in view, the hospitals at Riverside, Cal., Salem, Ore., and Wahpeton, N. D., are selected as the best examples.

Of the agency hospitals those at the Rosebud Agency, S. D., Kiowa Agency, Okla., and Navajo Agency, Ariz., have been selected for particular reference; and of the sanatoriums the Choctaw-Chickasaw, Okla., Canton, S. D., and the Phoenix, Ariz., plants are presented as the most interesting examples.

The majority of the buildings have been constructed under contract but there are places where local conditions and the small amount of available funds made contract work prohibitive. In these instances the hospitals were constructed in the open market with excellent result as to plan arrangement, economy in construction, good workmanship and material, and attractive appearance. As a



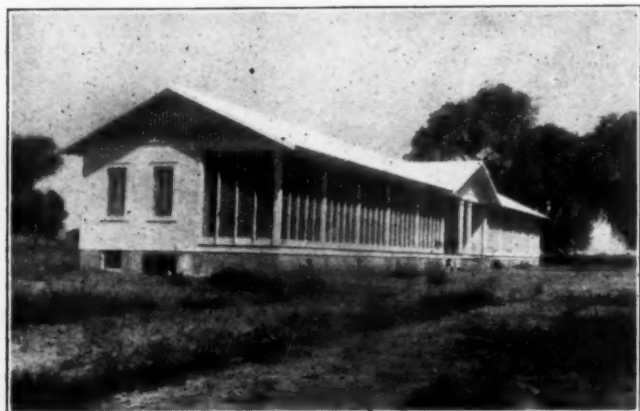
One of the bungalows at East Farm Sanatorium.

typical example of such methods the hospital at the Cherokee School, N. C., and that at Moqui, Ariz., and the agency hospital at Fort Defiance, Navajo Agency, are selected. The Cherokee building cost \$5,000 complete with all equipment; that at Moqui \$14,000 and that at Fort Defiance \$12,600 or six, fourteen and ten cents per cubic foot respectively, which are rather remarkable economic construction achievements, considering the remote location of the hospitals from trade centers and railroads.

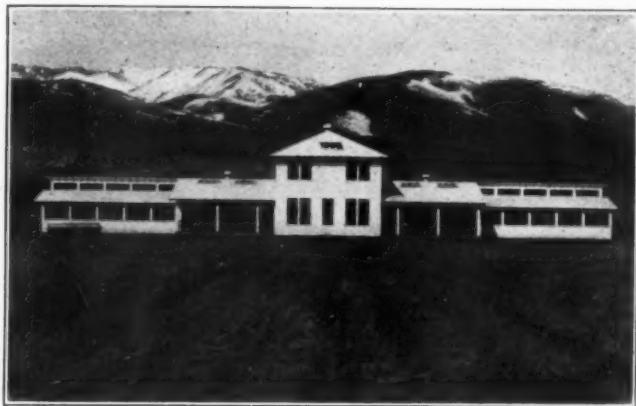
The sanatorium plants present a marked dissimilarity in their scope. Some are built from standardized drawings and are limited to a main building; these are usually situated near a school or agency plant within comparative easy service of activities not provided for in the main building. Where located at isolated places they are provided, as heretofore noted for some of the agency hospitals, with a number of adjunct buildings for the housing of the physicians, employes, for laundry purposes and other necessary activities. The larger sanatoriums, however, are of much greater magnitude, occupying extensive sites, and the complement and size of buildings vary with the character and number of activities administered. The sanatoriums built from standardized drawings are designed solely for the treatment of the great white plague, to the ravages of which the Indian is sadly susceptible, and are located respectively at the Cheyenne and Arapaho Agency, Okla., Turtle Mountain, N. D., Blackfeet, Mont., Pima, Ariz., Carson, Nev., Mescalero and Laguna, N. M. Those built from special drawings prepared to suit the conditions at each place are located at Spokane, Wash., Fort Lapwai, Idaho, Toledo, Iowa, Canton, S. D., Phoenix, Ariz., and Talihina, Okla.

The Standardized Sanatoriums

The standardized sanatoriums are of frame construction (with the exception of that at Laguna which is built of adobe), have a capacity of twenty patients, and cost complete including operative equipment \$17,500 each. All are heated by steam and lighted by electricity, except those at Blackfeet and Laguna which are lighted respectively by acetylene gas and oil lamps. Materials and workmanship are the best of their respective kinds. The rooms are finished with hard wall plaster and metal ceilings, and the plumbing, heating and lighting equipment are designed with the special view of their suitability to sanatorium purposes. The superstructure rests on concrete foundations. Exterior walls are sheathed and finished with drop siding and the roofs are covered with heavy asbestos roofing. In the extremely cold climates the exterior walls are back plastered. Special thought has been given to the ventilation scheme, that for the wards being



The Infirmary at East Farm Sanatorium.



U. S. Indian Sanatorium at Carson, Nev., illustrating a standardized design much in use in hospitals of the Indian Bureau.

adopted from the tuberculosis sanatorium near Denver, Colo.

For the Choctaw-Chickasaw Sanatorium nature has provided most bounteously. Placed on a broad plateau sloping to the east from Buffalo Mountain's protecting barrier amid a setting of virgin pines and oaks, the sanatorium occupies a site where attributes of scenery not only gratify the eye but where the pine-scented mountain air provides a health-giving tonic to the patients. As originally designed the plant comprised a main building located on made terraces at the northern end of the plateau facing south and approached from the main entrance gate by a broad roadway; on the eastern and western borders of the road were located separate tent quarters for men and women, bath and toilet houses, laundry and physicians' residence. This grouping and terracing plan, however, was not carried out, for the appropriation of \$50,000 proved sufficient only for the main building and modified heating, lighting, water and sewer systems, and necessitated a restudy of the first scheme of the layout. The original site was retained for the main building and the power house placed at its rear on the south bank of Rock Creek from which water is pumped for fire and general service. Pure water in unlimited abundance is piped from constantly flowing springs on the upper ledges of Buffalo Mountain and supplied by gravity to the building for drinking and other purposes for which the creek water is not suitable.

In the power house there are located in addition to the pumping plant the central heating and electric lighting plants. Besides the main building, the plant comprises a superintendent's cottage, school house, laundry building, ice making plant, stable and several minor adjunct buildings. The contract price for the main building was \$34,250 exclusive of administrative and operative equipments, and these are thoroughly modern and adequate for the treatment of both tuberculous and general cases, for which the building was designed.

Interior of Choctaw-Chickasaw

This building is thoroughly modern in every detail of construction and in plumbing, heating and lighting equipments follows the best known methods. The large wards are lighted by semi-indirect fixtures and the operating room by fixtures particularly adapted to the uses of that room. An electric light signalling system has also been installed in the building. The heating is by a low pressure gravity return system connected to the plant in the power house, and the radiators are the usual open section hospital type. The plumbing fixtures are of the highest sani-

tary type and manufacture required by the U. S. Government standard specifications and the piping installation conforms to the most modern practices. Sewage disposal is secured by a trunk line 1,500 feet long extending from the main building to a septic tank, the effluent from which is discharged into a marshy stretch of ground located 2,000 feet on the low levels bordering a tributary branch to Rock Creek.

The standing finish is of pine without mouldings; doors are of the single panel hospital type; all wood floors are doubled and sound deadened in the central pavilion; and the finished flooring is of selected southern yellow pine. The walks are finished with two-coat hard plaster on metal lathing, except in the kitchen, operating, bath and toilet rooms, which are wainscoted with a stainless white cement blocked to represent tiling. These rooms have cement floors also. All rooms have metal ceilings and cornices and the roofs are covered with metal shingles. The painting is three-coat work best white lead and oil and the floors have oil finish. Ventilation is secured by natural draft through flues connected to ventilators of the air siphon type by ducts in the loft. Garbage disposal is by means of an incinerator, the heat from which is used in heating water for various purposes.

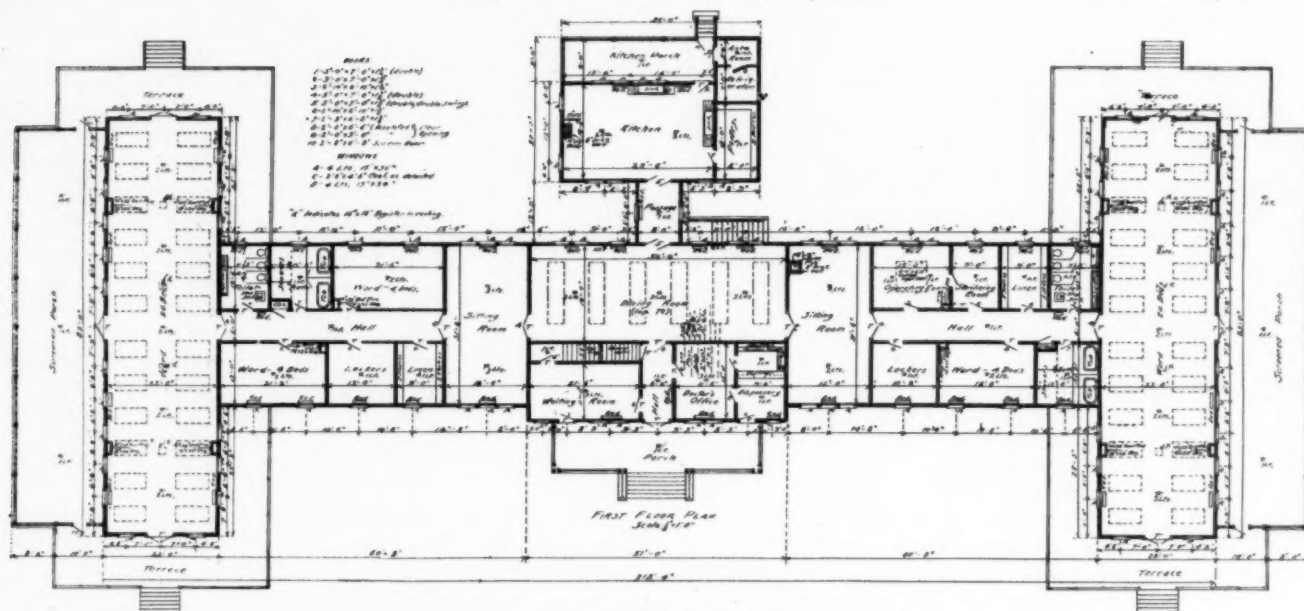
Plan of Phoenix Sanatorium

The site occupied by the sanatorium at Phoenix, Ariz., does not possess the diversity of mountain scenery and natural arboreal wealth found at the Choctaw-Chickasaw site, but by the introduction of irrigation and planting schemes the site has been transformed into a very pleasing one. The plant consists of a main building, infirmary, medical laboratory, assembly hall, dining hall, employees' club building, physicians' residence, several employees' cottages, bath house, laundry, power house, warehouse, barns and twenty-four bungalows or tent quarters.

The main buildings are grouped around three sides of a rectangle, 432 feet long by 336 feet wide, in the center of which the tent quarters are arranged in two groups of twelve bungalows each, placed on either side of a campus 50 feet wide; each group is separated by a street 24 feet wide, the bungalows being placed 24 feet apart and approached by cement sidewalks. The bungalows are 12 by 14 feet, of frame construction resting on concrete piers two feet above the ground and are finished with drop siding up to a height of four feet, above which the space is enclosed with wire screening three feet high and canvas



A typical ward in the Carson Indian Sanatorium.



First floor plan of the Choctow-Chickasaw Sanatorium.

curtains on rollers. They are heated by stoves and cost \$350 each.

The main building is designed for the treatment of incipient and moderately advanced cases, is of frame construction, lighted by electricity and will be heated by steam. The cost complete with operative equipment was \$14,500. A structural feature worthy of special mention are the open wards which take up most of the floor space in the second story. These are enclosed with wire screening and heavy canvas curtains on rollers; the floors are covered with a steam-boat deck covering consisting of 12-oz. canvas on 1¼-inch narrow-tongued and grooved flooring over heavy waterproof building paper; they are painted four coats of lead and oil. The interior finish, painting, plumbing, heating and lighting equipment are similar to those items described for the infirmary building.

This building is designed for the treatment of advanced cases and was completed in 1918 under contract at a cost of \$9,305 exclusive of operative equipment. The superstructure is of full frame construction resting on concrete foundations; the exterior walls are sheathed and covered with three-member rustic clear redwood siding and the roofs are covered with composition material. The exterior and interior woodwork is of clear pine, the door and window trims being plain and finished on the exterior with drip caps. All bases are plain and the walls and ceiling are finished with hard plaster in two coats; the

wood work is finished with three coats of best grade white enamel. The plumbing equipment is of the very best grade hospital type and hot water is supplied from the circulation system in the power house. The building is lighted by electricity and will be heated by steam similarly to the main building, both installations following the most approved methods suitable for hospitals.

The installations are connected up to the central systems in the power house, that for the steam being of the two-pipe vacuum type. The plant is also provided with a modern sewer system forming part of the extensive system recently installed at the boarding school and connected up to the city system at Phoenix, Ariz.

COOPERATION IN RELIEF WORK

Here is the story of a sick man who hurts the cause of the sick, as related by the Detroit department of Health in its *Weekly Health Review*:

Herman Kiefer Hospital opened her tuberculosis ward to him early in 1918. He stayed several months and then left without permission. He found it more to his liking to enlist the sympathy and financial support of private individuals. He asked for money to take him west so he could be cured of tuberculosis. He got it—got it many times and he abused the kindness of the people who helped him.

Individualistic philanthropy did this since 1918:—

It sent him to Colorado and return three times; it sent him to Illinois and return three times; it sent him to Minnesota once and to Iowa once; it helped him into Eloise, Herman Kiefer and the Detroit Tuberculosis Sanatorium about ten different times.

Last year Detroit business men gave him \$486 in three months.

The last we know he had a letter from a physician stating that the bearer had tuberculosis and if given financial assistance would go to the west to live.

It is not economical to dissipate the helping dollar. There are many people who need it and who will be square in their use of it.

The way to connect the helping dollar with these people is to pass relief cases through a clearing house. Detroit possesses such a clearing house in its department of public welfare.



A view of Choctow-Chickasaw Sanatorium at Talihina, Okla.

NEW YORK AS A HOSPITAL CENTER

BY E. H. LEWINSKI-CORWIN, EXECUTIVE SECRETARY, PUBLIC HEALTH COMMITTEE, NEW YORK ACADEMY OF MEDICINE, NEW YORK

ACCORDING to the figures published by the American Medical Association, about ten per cent of all the hospital beds in the country and about twenty per cent of the hospital facilities of fifty larger American cities are located within the boundaries of the city of New York

There are in New York City about 32,000 hospital beds; the investment in real estate alone amounts to eighty million dollars and the annual maintenance costs total thirty-five million dollars.

As a phase of the educational activities which the New York Academy of Medicine is carrying on, the public health committee of the academy made a survey of the hospitals of the city. The field covered in the survey can perhaps be best visualized by the following general outline of the study.

Scope and Method of Study

- I. Historical account of hospital development in New York City.
 - a. Phases of institutional development.
 - b. The development of legislation relating to hospitals and the care of the sick.
- II. Hospital facilities in New York City.

Distribution of bed capacity by:

 - a. Boroughs.
 - b. Ownership of hospitals.
 - c. Capital investment.
 - d. Size of institutions.
 - e. Type of service.
 - f. Private, semi-private and ward services.
 - g. Medical affiliations.
 - h. Ambulance areas.
- III. The problem of illness.
 1. The prevalence of illness.
 2. Hospitalization.
 3. Hospital charges for:
 - a. Ward accommodations, private and semi-private accommodations.
 - b. Laboratory, x-ray and other charges to ward and private patients.
 4. Income in relation to illness.
- IV. The economics of hospitals.
 1. The sources of income.
 2. Costs of maintenance.
 3. Endowments.
 4. Workmen's compensation.
 5. Social policy.
- V. Hospital administration.
 1. Organization of responsibility.
 2. Control of personnel and procedures.
 3. Methods of purchasing and of food control.
 4. Cost accounting.
 5. Equipment.
 6. Measures of efficiency.
- VI. Medical organization.
 1. Forms of organization.
 2. Control of medical and surgical procedures.
 3. Teaching and research.
 4. Efficiency tests.
 5. Control of interns.
 6. Case records.
 - a. Forms.
 - b. Fullness and accuracy of reporting.
 - c. Methods of filing.
 - d. Availability.
 7. Retiring age of attending staff.
- VII. Nursing staff.
 1. The supply of nurses in hospitals.
 2. Training schools.
 - a. Standards.
 - b. Teaching methods.
 - c. Student body.
 3. Amount of nursing care in the hospitals.
 4. Discussion of problems.
- VIII. Hospital personnel.
 1. Laboratory and technical departments.
 2. Administrative:
 - a. Executive.
 - b. Departmental.
 3. Compensation of hospital employees.
- IX. Study of case records.
 1. Comparative analysis by procedures.
 2. Comparative analysis by conditions.
- X. Provisions for chronics and convalescents.
 1. The medical and economic consideration of the problem.
 2. The extent and type of facilities for the care of chronic conditions.
 3. The extent and type of facilities for convalescent patients.
 4. Special needs.
- XI. Special problems.
 1. Teaching and research.
 2. Occupational therapy.

3. Dietetics.
4. Social service.
5. Districting of the city for hospital purposes.
6. Special hospitals for infants and children.
7. Special hospitals generally.
8. Problem of tuberculosis.
9. Problem of venereal disease.
10. Problem of the crippled.

XII. Community policy with regard to hospitals.

It will be seen from the above outline that there is hardly a phase of hospital organization and work which has not been taken up, with the exception of the out-patient departments which were a subject of special study on the part of the committee prior to that of the hospital study.

A survey of this kind is apt to reveal prevailing conditions and procedures; that is its chief function and value. Surveys have been likened to stock-taking in the industrial and commercial world and have become recognized as an indispensable phase in the social bookkeeping of our democracy.

It is impossible in a brief summary to even enumerate the main findings. Only certain aspects will be touched upon here.*

Main Findings of Survey

It would perhaps be of interest to point out that 57 per cent of the hospital beds in the city are in privately endowed institutions, 39 per cent are in municipal or public institutions and about four per cent in private sanatoriums.

More than one-half of all the hospital beds are in the Borough of Manhattan.

Fifty-eight per cent of all the hospital beds in New York City are in general hospitals, 38 per cent in special hospitals and four per cent in the proprietary sanatoriums. Of the 18,400 beds in general hospitals, 34.5 per cent are in hospitals of over 500 bed capacity; the majority of these are in municipal institutions; 33.5 per cent are in hospitals of from 250 to 500 bed capacity; about 22.5 per cent are in hospitals of 100 to 250 bed capacity; about eight per cent are in hospitals with a bed capacity of 50 to 100 beds; and about two per cent are in hospitals of less than 50 beds.

Of the 11,937 beds in special hospitals, 46 per cent are in hospitals of over 500 bed capacity; 23.5 per cent are in hospitals of from 250 to 500 bed capacity; 17.5 per cent are in hospitals of 100 to 250 bed capacity; 11 per cent are in hospitals of 50 to 100 bed capacity; and 2.5 per cent are in hospitals under 50 bed capacity.

As far as hospital reports are accurate, it would appear that 390,000 patients were cared for during the year 1920; 300,000 (in round figures) in general hospitals, and 90,000 in special hospitals. Six and three quarters million days of hospital care have been given during the year; four and a half million by general hospitals and two and a half million by the special hospitals.

Over 3,200 physicians and surgeons are on the visiting staffs of the hospitals in New York City and more than 6,500 nurses are engaged in the care of the sick.

One of the most interesting tables prepared on the basis of the information secured in the survey was that showing the distribution of bed capacity according to service and

*Sections of the summary of the study were published in THE MODERN HOSPITAL of February, 1922, in Journal of A. M. A. of February 25, 1922, in American Journal of Nursing, May, 1922, and in Hospital Management, February, 1922.

use in the hospitals in New York City. This, I believe, is the first more or less successful attempt made to analyze the "supply curve" of hospital facilities.

The figures as given in the table below are only approximately correct and refer to the year 1920. They are reproduced here as of possible interest to other communities as well as to the city of New York.

Distribution of Bed Capacity According to Service and Use in 182 Hospitals of Greater New York

Service and Use—	Municipal Beds Percent	Private General Beds Percent	Private Special Beds Percent	Proprietary Beds Percent	Total Percent
Medical	1,366 11.1	1,900 18.5	53 .7	.....	3,319 10.6
Surgical	1,424 11.6	2,290 22.5	9 .1	.....	3,723 10.6
Obstetrical	398 3.3	666 6.5	558 8.0	203 15.2	1,825 5.3
Gynecological	254 2.1	313 3.0	119 1.5	.....	686 2.2
Genito-urinary	242 2.0	96 .9	.....	.....	338 1.0
Syphilis	211 1.8	.....	6 .2	.....	217 .6
Eye	117 1.0	12 .1	47 .6	.....	176 .5
Eye, ear, nose and throat .....	.....	98 .9	403 5.6	.....	501 1.6
Pediatric	879 7.2	967 9.0	882 12.3	.....	2,736 8.7
Orthopedic	236 1.1	70 .7	447* 6.3	.....	753 2.4
Chronic orthopedic .....	.....	.....	556** 9.9	.....	556 1.7
Skin	174 1.5	8 .1	30 .4	.....	212 .6
Cancer .....	.....	.....	129 1.8	.....	129 .4
Chronic cancer .....	.....	.....	263 3.7	.....	263 .8
Neurological	532 4.4	17 .1	349 4.9	.....	898 2.8
Interchangeable .....	.....	2,899 28.3	169 2.4	819 59.9	3,887 13.0
Psychopathic	434 3.6	.....	350 4.9	332 24.9	1,116 4.0
Tuberculosis	2,585 21.0	16 .1	1,621 22.9	.....	4,222 13.5
Erysipelas	38 .3	.....	.....	.....	38 .1
Contagious	1,969 16.0	10 .1	.....	.....	1,969 6.3
Chronic	1,174 9.6	.....	458 6.5	.....	1,632 5.2
Industrial .....	.....	.....	40 .5	.....	40 .1
Boarding Beds	12 .1	.....	.....	.....	12 .0
Bassinets	283 2.3	890 8.6	555 7.9	.....	1,728 6.0
Research .....	.....	.....	70 .9	.....	70 .2
Total	12,331	10,242	7,124	1,354	31,051

*Of these 273 beds are for children.

**Children's beds.

An examination of the table leads one to ask whether the provisions for certain types of conditions are adequate for the needs of the community. This would particularly apply to such conditions as those associated with the eye, ear, nose and throat, gynecology, urology, syphilis, neurology, industrial reconstruction and the care of the chronics.

The "supply curve" has no significance unless compared with the "demand curve." Unfortunately the actual or potential demands for hospital accommodations can not be determined very accurately because of the lack of morbidity statistics. With the exception of the prevalence of certain reportable diseases, we have no yardstick to gauge the problem of illness in its constituent elements. The various surveys and studies have given us a general idea as to the total amount of illness in a community but have done little more than this. With certain exceptions, such as in cases of contagious diseases, tuberculosis, and obstetrical conditions, we have not sufficient data at our disposal as yet to say accurately how many hospital beds of a certain kind a given community needs. The personal experiences of physicians and social workers in obtaining hospitalization for certain types of cases furnish some clue to the situation.

Middle Classes Need Facilities

In the light of the information which could be obtained as to this phase of the hospital situation, it would seem that the most pressing immediate need for extension of the hospital field in New York City lies in the direction of larger facilities for patients of the middle classes.

The general needs of the city as far as its own population is concerned seem to be fairly well met. New York, however, because of its medical renown, attracts a considerable number of patients from outside the city limits

and, therefore, the sufficiency or insufficiency of hospital beds has to be gauged with that fact in mind.

The survey likewise brought out the need of additional convalescent facilities and a better correlation of the available accommodations in this realm. Certain types of conditions are well provided for while other types, such as nervous and borderline mental cases, are not adequately

considered. A study of 3,236 case records selected at random from the files of the social service departments of a group of hospitals showed that in 908 or 30 per cent of the cases there is a convalescent need. Of the 908 cases needing convalescent facilities, 23 per cent were adult males, 22 per cent adult females and 35 per cent were children under fourteen years of age. The existing ratio of accommodations between men and women does not correspond to the need as ascertained from the above analysis of records. There are inadequate facilities for men and adolescent boys as compared with women.

As has been stated above the provisions for chronic disease cases are not adequate, and with a few notable ex-

ceptions, the equipment of these institutions is meager and the amount of medical attention provided is insufficient for the need.

Very few of the general hospitals and not all of the institutions for chronic cases have utilized the opportunities offered by physio-therapy and occupational therapy.

The survey has further shown the need of larger nursing staffs in almost all of the hospitals, of more ample laboratory and x-ray facilities with adequate personnel, of the extension of the follow-up service, and a more careful and scientific supervision of the work of interns, nurses, dietitians and other professional agents of the hospital, of a greater utilization of hospital facilities for clinical research and teaching, and of more uniformity in the statistical, financial and efficiency accounting of the hospitals.

What was particularly striking as an immediate need was an agency in the city which would assemble facts concerning the work of the hospitals from year to year and which would be at all times in a position to inform the hospitals and the public as to existing conditions, immediate and future needs, and the prevailing practices and procedures. The public health committee of the New York Academy of Medicine accordingly recommended that such an agency be organized in the city. Recognizing this need the United Hospital Fund of New York established a bureau known as the Hospital Information Bureau whose purpose is to meet the need revealed by the survey.

'Ere long New York City will become one of the great medical centers of the world. It has all the elements necessary for this high destiny: vast clinical and research facilities, an abundance of medical talent and surgical skill, huge economic resources and a gradually developing spirit of community responsibility and cooperative helpfulness.

THE PRACTICE OF READING ALOUD TO INVALIDS

BY THEODORE DILLER, M.D., PITTSBURGH, PA.

THE practice of reading aloud may, I suppose, be designated as an old-fashioned one since it appears to be done less and less often. People are not at home nearly so much these days as they were in times gone by and now there are many diversions that lead them from their library tables and their books. Yet the practice of reading aloud has not wholly disappeared; and it would be well indeed if in the future we would see a regrowth of it.

One can read a book alone to be sure. One can travel alone. One can view nature or paintings or churches alone; but every wholesome-minded person would sometimes prefer a companion so that he may pour out his own comments upon a sympathetic ear and receive in return those of his companion.

Who has not felt in reading a book that he would like to stop and comment upon this and that statement or description or criticism of the author! So it would seem to me there is the same reason for reading aloud that there is for a companion in enjoying scenery or works of art.

For men, women or children convalescing from an illness reading aloud ought to be particularly acceptable inasmuch as it is often fatiguing for the convalescent to read himself. Moreover, a book read aloud gives the convalescent the opportunity to comment and to enjoy the book sympathetically with the reader.

The Voice of the Reader

In these days of speech making we hear many voices: in church, on the platform and in the theater besides in ordinary conversation. There are all sorts of faults to be found with voices. Some are too loud and others too low. Some are sharp or nasal; one may speak too rapidly or too slowly or mumble. I have noted a curious thing, that sometimes a great singer does not possess a pleasing conversational voice. The most beautiful voice I have ever heard came from a woman who was nearly tone deaf and unable to carry on an ordinary tune. I know some voices that are pleasing to me apart from anything they have to say, and some that are habitually displeasing. I have often heard a certain great scholar make addresses and after dinner speeches. His voice is very flat and grating to me, and yet this is a good man; he is very good man; he is very learned and talks sense.

One who reads aloud should raise his voice just high enough to be heard easily. He should read with some but not exaggerated expression, being careful to put in proper stops. Some persons can read rapidly and yet read well. The rapidity with which one reads should be gauged by his own powers of reading and the receptivity of the listener. The reader should above all aim to read with simplicity.

Some people like books, some like them very much and some care for them hardly at all. And so, in reading aloud, one should consider what to read. It is at once obvious this must depend largely upon the person read to. No very definite directions can be given. There is no particular class of literature suitable for the sick; but in a general way I feel that newspapers should not be read to invalids. It is better if even magazines are not read, but rather solid books, books of real worth. I see hardly any limit in the choice of books except the mental capacity of the hearer, a thing to which the reader should pay

most careful attention. This statement ought to be somewhat qualified. It is better generally to avoid books in which the imagination is greatly displayed, as in Victor Hugo or Poe. Humorous books are often very suitable but not always. It is a mistake to make too much of a studied effort to "cheer up" the invalid. Among suitable books I name Oliver Wendell Holmes, Washington Irving, Mark Twain; and I have often recommended Jane Austen and the old standard writers—Scott, Thackeray and George Eliot. It often happens that short stories are more suitable than long ones, and these we have in abundance. Nothing is better than those of O. Henry. Myra Kelly writes amusing stories about children. The reader must not weary the convalescent and he ought to be careful to watch for this.

Favors a Society for Reading Aloud

If reading is done in the right sort of way at the right time and not too long, I think it often happens that persons who have not cared for reading before come to like it. Personally I feel the habit ought to be cultivated both by well persons and invalids. In the hospital if the patient has a trained nurse in charge she will find ample time to read to him, but without special nurse he can hardly expect the nurses to take time to read to him. Here it seems to me is a great field for useful work for women of leisure—to visit hospitals and homes regularly for the purpose of reading aloud to those who enjoy it and who would profit by it. If a sufficient number of women were banded together for this work of reading aloud all the reading that could be absorbed by invalids could be given without undue burden to any individual reader. If there were an organization in one of our large cities for reading aloud, it might be that such readers could receive instruction in the use of the voice and some hints of books to be read. I am sure that our public libraries would be ready to cooperate in this matter. It may be there is such a society in existence, if so I should like to hear something of it. It goes without saying that reading aloud should be done only with the approval of the physician in attendance.

The United States Government is conducting the largest trade and industrial school in the world. It has more than 130,738 students enrolled. This "school" is the rehabilitation division of the United States Veterans' Bureau through which the government is training these 130,738 veterans in a trade, industry, profession, business or in agriculture.

The instruction in these vocations is furnished in leading colleges, technical schools, commercial schools as well as in business establishments, shops and on farms. These men are in training in every state in the union and in every large city in the country. In all the large industrial centers these men who have received this intensive training from the government are available for positions. Every vocation is represented and any employer who needs additional personnel will be furnished such personnel from this vicinity in short time by notifying the Veterans' Bureau. Not only is this personnel trained in the best schools available but they have also received practical instruction on the job in industrial establishments and in shops.

NURSING AND THE HOSPITAL

Conducted by CAROLYN E. GRAY, R.N.,

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NURSING EDUCATION AND THE AMERICAN HOSPITAL*

By RICHARD OLDING BEARD, M.D., UNIVERSITY OF MINNESOTA, MINNEAPOLIS

TO THE evolutionist who believes in an ever-evolving process, history has its chief interest in the afterglow it casts upon the present and the guidance it gives to the onward movement of tomorrow.

The history of nursing education is not coincident with the history of nursing. The latter may be roughly traced through four phases of social experience and while in the first two of these phases no formal attempt at education appears, they had, and perhaps continue to have, their influence upon the medical and popular view of nursing education. The first period is that of home nursing. It consisted merely in the exercise of the natural function of womanhood, and especially of the wife and mother, in the domestic care of the sick. In its exercise there was everything of tenderness and devotion, enlightened by the occasional, desultory instruction of the physician, who assumed to know more and usually knew less of nursing than the household nurse herself. Home nursing was the expression of the intuitive desire of woman to heal the sick, to bind up the broken of body or of spirit, to comfort those who suffer.

The home nursing period has never really ended. It not only overlaps the succeeding phases of history, but it persists through them all and perhaps it always will persist. The home nurse, frequently superseded, of her own volition, by the professional nurse yields her place, as the part of good intelligence dictates, to a more competent helper; but her potentiality of service remains, an inherent right backed by an inherent capacity.

Entrance of the Practical Nurse

Through all recorded time she usually played the part of a good neighbor and whenever she showed particular aptitude for nursing she stood on call in the community. She became, in a word, the parent of that unique composite figure who occupies the center of the second stage of nursing history—the experienced or practical nurse. In the course of time, with the growing complexity of society, an increasing number of women made a business of community nursing. Many of us can think back to the days when no other kind of a nurse was to be had for hire. Sometimes she was efficient and funded to very good results the experience of her passing years. Sometimes her capacity was in inverse ratio to the social need of

her services and if her untutored mind happened to run in a narrow mold her society was more of a bane than a pleasure and her nursing was often worse than none. In her group, however, we recall women who were deserving of honor and of more substantial reward than they received. Occasionally, we employed one who proved superior to the early specimens of her presumptively trained successors.

For the third phase in the history of nursing visualizes for us the trained nurse. Florence Nightingale of blessed memory, systematically if chiefly self-trained, has always been regarded as the prototype of this group and that carries its evolution back to 1854. She was certainly the first to apply the science of her day to practical nursing and in doing this she undoubtedly established a new type. She became the administrator and the teacher of almost the first training school for nurses; but the attempt languished and it was reserved for America, almost a generation later, to set the type of school, if not the type of nurse, in this third period. It is a significant fact that the period of the trained nurse is coincident with the rise and development of the modern hospital.

In fact the hospital was the reason of being for the training school. Its economic survival was conditioned upon the pupil nurse. Like the early output of the trade school, she was simply apprenticed to the job, and while the period of her training was called a curriculum, it was nevertheless a period of service and often of very menial service at that. We may readily recall, in our western cities, the essentially domestic quality of the early graduates of the training schools. With all honor to their ambition for personal betterment, crudity was nevertheless their outstanding feature. I remember well my astonishment on my first visit to eastern schools of nursing to note the culture, the education, the refinement, as well as the economic independence of many of their pupil-nurses.

Through forty years of the later development of the training schools I have watched with pleasure the progressive improvement in the quality of their registration; but I have wondered sometimes whether the indifferent attitude of some professional men toward nurses is not a relic of the earlier sense of their inferiority; whether it has not served, in part, to shut the eyes of the physician to the wonderful work of the generally wonderful body of women who make up the nursing profession of today.

*An address delivered before the third annual convention of the Wisconsin Hospital Association at La Crosse, Wis., May 31.

Nurse Reacts Against Repression

I know there are those who even refuse to accord to the calling of a nurse the dignity of a profession. They are simply living in a past when nursing was accounted the function of the domestic. As hospital administrators, these men—for I am sorry to say that they who take this attitude are men—have succeeded sometimes in determining the non-professional status of their pupil nurses, so long as they remained in the hospital school; but a harvest of resentment follows that sort of sowing in the minds of students. The reaction of the repressed woman is toward a professionalism all the more keen and, too often, self-assertive.

For nearly fifty years the institutional or hospital school was the only opportunity of training open to the nurse, the only source of supply of the graduate nurse for private duty or hospital special service. The country is, in fact, deeply indebted to the hospitals for the institution of private nursing in America. The nurse of those early days did not care very much about training. She was content with the school of experience and hard knocks although it was commonly the patient who had to take the punishment. The public had never known anything better than the practical nurse and did not demand that she be trained. But the hospital needed the efficient nurse. It could only get her by training her and rather eagerly and miscellaneously it undertook the task. The training schools multiplied. The organization of a new hospital, whether good, bad or indifferent, carried with it, as a matter of course, a new training school. Too often the nurses' training has been a mere matter of technique. Too often automata in nursing have been turned out, who caught nothing of the inspiration of a profession and were innocent of the spirit of social service. They were deserving rather of commiseration than of blame, for they were the output of a too rigid hospital system and they were too frequently exploited for the benefit of the hospital they served. They might be expected to take their toll of the public since the hospital had taken rather ruthlessly its toll of them.

Nurses Became Dissatisfied

For a dozen years before the War, the symptoms of dissatisfaction with the prevailing system were not wanting among nurses. It was not infrequently said that the extension from a two to a three year training course was in the interest of the hospital service rather than in the interest of the nurse in training. Undoubtedly the lengthening of the course, whether justified or not, was sometimes adopted as a means of slowing up the output of nurses, because with the multiplication of hospital training schools a curious thing had happened. More nurses had come to be needed as undergraduates in hospital service than society

needed as graduates on private duty. I made a rather widely extended survey of private nursing in 1908, with the discovery that at that time the nurse in practice was employed on an average of seventy per cent of her time; and by that period society had pretty well developed the expectation in sickness of the services of the trained nurse. And in that day the fee for private nursing was only \$15 to \$20 a week. There was definitely no shortage of nurses in private practice, and the employment of nurses in public health service was at that time limited to only a very negligible number.

"BARGAIN" OR FIVE-YEAR COURSES

"Short courses for nurses have had the history of a bargain sale. They draw cheap buyers out after cheap goods, and the supply of either soon exhausts itself. The output of these schools belongs to the social order of the ephemera. They are 'little creatures' who have their day and cease to be.

"That high standards of nursing education invite rather than repel students is shown by the fact that the five-year combined courses in arts and nursing offered by fifteen of our major universities in the past year or two are already finding ready takers.

"I believe we are very close to the parting of ways in nursing education. I have no fear that we shall go backward. The tide may temporarily recede, but ebb is always followed by flow. Cheap expedients for increasing nursing registration will not succeed. Students will not accept what they do not want. The problem is one of adjustment. It is a question soon to be met between institutional and university methods of education."—Dr. Beard.

The deficiency of nurses in the hospitals finally became sufficiently marked to lead to the practice of employing graduate nurses in special hospital service, a practice which has grown in the past twenty years. Very naturally the hospitals found the shrinkage of registration an occasion for concern and discussion of the policies of nursing education developed in hospital and medical associations alike. Curiously enough, it hardly seemed necessary to consult the nurses themselves and this lack of co-operation and counsel still measurably continues. In the first instance, their isolation might be traced to a lack of organization.

The profession of nursing, under the leadership of Isabel Hampden Robb, had only begun to organize in the later years of the last century, but it had attained

no direct initiative, no solidarity of influence. It was still under the sway of hospital administration. It had hardly begun to act or even to think for itself. It had not acquired a semblance of the strong professional spirit which actuates it today.

Nevertheless, the time was ripe for change in the nursing world. I do not know whether the incidence of events is unconsciously governed by the tides of human thought, but I remember well an experience in June, 1910, which announced not only that a new phase in the history of nursing had been initiated, but that the day of the educated nurse, as opposed relatively speaking to the trained nurse, had come and come to stay. There are those of us hold still to the faith that "What is good—as God lives—is permanent."

In that year, a fortunate bequest had given to the University of Minnesota a teaching hospital and some of us sensed the opportunity to propose the creation of a university school of nursing. We drafted a plan of organization which was adopted by the board of regents. Hardly had this been done when the national organizations of nursing met in Minneapolis. At a joint session, gathering, perhaps, the largest number of nurses ever assembled up to that time, an address was given upon "The University Education of the Nurse" and, without any previous knowledge upon the part of the audience, the action of the University of Minnesota was announced. Instantly,

with an electric wave of enthusiasm, that great congregation of women was on its feet in spontaneous appreciation of a new destiny. The movement has wonderfully developed. In twelve years ten university schools of nursing have been established, while several affiliations with teaching institutions of varying intimacy and more or less doubtful value have been formed.

The First University Training School

The pioneer school at Minnesota, to which the early critics allotted an early death, has maintained the standards with which it started. It is a collegiate school. It enters high school graduates. It gives a preliminary course of scientific instruction. Its growth has been limited by the capacity of its teaching hospital and of the reaction which the limitation has created I shall later have something to say.

Since the year 1910 "much water has passed under the bridge" and many new occasions have taught new duties in nursing education. The great war has been, and the profession of nursing, with everything else in human society, has been disorganized. The response of American nurses to the call of the country in the military and naval services gave witness to the quality of their national devotion, to their capacity for sacrifice, to their sense of professional honor. The draft upon the nursing profession, if temporary, was severe. Some of them did not come back, and those who did came back to find that their own widened sense of opportunity, of a higher destiny in nursing, had been met by the sharply awakened consciousness of the people to the already serious deterioration of the public health, discovered by the statistics of the war. The reaction of the people has been and remains keen. An impetus, never experienced before, has been given to every form of public health activity. The American Red Cross and the National Organization of Public Health Nursing found themselves in the grip of a great emergency and they met the call for competent nurses and for higher education to make them competent, very nobly. The Red Cross peace program pivoted upon the public health and if it be true, as the newspapers report, that the House of Delegates of the American Medical Association has called for a cessation of Red Cross activities in this field, it is greatly to the discredit of the medical profession. It is a matter for regret to many of us who belong to that profession that it has taken so slight an interest, so small a part, in preventive medicine. The claim that politics enters into public health work is a trivial one. It enters into medical organizations as well, and it is only a question of keeping the politics clean. The American Red Cross has not paralyzed; it has been a tremendous stimulus to community interest and responsibility.

Of one thing we may rest definitely sure. The public health program of the people of America is not going to be stopped. The demand for adequately educated nurses in the widening fields of public health activity is going to continue. Women, as nurses, provided they are fitly educated, are the best promoters of public health interests to be found. They find school and home and public forum open to them and already they have given, in visiting nursing, in infant and child welfare work, in public school nursing, in rural community nursing, in industrial nursing, in medical social service, abundant proof of their capacity to serve.

To the superficial observer, not well informed of existing conditions, the temptation comes to let down the educational bars, to propose short courses, to offer a premium to pupils as though they were fish to be caught by bait.

One year, two years, we are told are sufficient to give nurses adequate training. It is fondly hoped that if their education is foreshortened they will work for lesser wages, while all experience has proved that the graduate of the two-year school will ask as much for her services as the three-year graduate. It would not take long for the one-year trained nurse to think herself as good as her better trained competitors and to adopt the same wage scale. Professional ethics and individual conscience are matters of education and the less educated the nurse the less likelihood is there of development in her of the spirit of social service. Moreover, we may as well say frankly that the only argument for the rapidly educated nurse is the hospital need and that is not enough to justify a cheapening of nursing education.

Let us take a little account of the facts: Admitted that registration of pupil nurses is lessened, where is the deficiency the more and where is it the less critically felt? It is the small, the inferior, and frequently the short course schools that are the keenest sufferers. The superior group of hospital schools and the schools under university ownership and control are entering increasing and often adequate numbers. The conclusion is very clearly drawn. Women who are seeking a vocation today and particularly women who are entering the profession of nursing are seeking the best education they can get. They are looking not only to private and hospital practice. They expect ultimately to reach out into the higher opportunities of public service. They do not want to be "sub-nurses."

"Bargain Sale" Courses for Nurses

The six weeks' course for nurses of Dr. John Dill Robertson of Chicago has had the history of a bargain sale. It draws cheap buyers out after cheap goods, and the supply of either soon exhausts itself. The output of these schools belongs to the social order of the ephemera. They are "little creatures" who "have their day and cease to be."

That high standards of nursing education invite rather than repel students is shown by the fact that the five-year combined courses in arts and nursing offered by fifteen of our major universities in the past year or two are already finding ready takers. The two years of academic work, the two years in the school of nursing, and the fifth year in advanced study in specialized nursing, public health service, or nursing education are proving attractive. I look to see these five-year courses become the great feeders of the university schools. They lead to the double degrees of Bachelor of Science and Graduate in Nursing.

I believe we are very close to a parting of the ways in nursing education. I have no fear that we shall go backward. The tide may temporarily recede, but ebb is always followed by flow. Cheap expedients for increasing nursing registration will not succeed. Students will not accept what they do not want. The problem is one of adjustment. It is a question soon to be met between institutional and university methods of education.

Two or three things stand out clearly to be reckoned with: The economic need of the hospitals for nursing service must not only be considered, but it must be met. While the hospital is not naturally an institution of learning, it is an instrument of education. It must remain the laboratory in which the nurse receives her practical training. It should confine itself to that function under the standardizing direction and the educational control of the university school.

By association with the university school, as its clinical laboratory, the hospital exercises in behalf of the nurse, precisely as it does in behalf of the medical student, a

limited but a very important educational function. At the same time, it serves to widen the possible limits of registration in the university school, and incidentally the volume of its own nursing service.

In the large cities where major universities or even lesser colleges exist, the association between a university or collegiate school of nursing and the hospital, or group of hospitals, is merely a matter of organization. Distance however is not an insuperable bar to such a relationship.

Hospital Affiliation with Universities

The critical points in such an association are the quality of the clinical service offered by the hospital, the willingness of the institution to place itself educationally under university control; and the standardization of its teaching and the selection of its teaching staff by the university.

Some of my hearers may be inclined perhaps to suggest that the proposal is merely an educationist's dream. Well, it has always been the vision of the educationist, backed by the ideals of the advance guard of the profession, that has made for educational progress. The laws which govern the practice of the service professions have never done it. They only express the average sense of the people by whom they are enacted. They follow always in the footsteps of the schools. The sufficing answer to the critic is that the thing has been done! There is nothing so convincing as accomplishment. Minnesota, which pioneered the university education of the nurse, has established a central university school with which the nursing service of four major hospitals are associated.

Limited until a year ago by the 200 bed capacity of its own teaching hospital, the university had entered in previous years not to exceed thirty-four students a year. Within that period it has accepted overtures to take over the teaching of nursing students from the Charles T. Miller Hospital with 200 beds in the neighboring city of St. Paul; from the Minneapolis General Hospital with 750 beds; and from the Northern Pacific Hospital with 200 beds in the so-called midway district. Its bed capacity for teaching nurses has thus been increased to 1,350 patients.

Within a single year, under experimental conditions and with small publicity, it has increased its registration very satisfactorily. It enters a class in each quarter. Its students take a three months' preliminary course in the related scientific subjects at the university. During this period they are provided with room and board, but they are not entered in hospital service.

In the order of their scholarship, at the close of the preliminary course, they are given choice of either associated hospital as their principal point of residence; but from thence they are assigned to rotation services from time to time in the several associated hospitals.

The association makes a varied and complete course of nursing education an actuality. Students get experience in the nursing of free patients, per diem cases, and private patients. They enter services for the study and care of acute and chronic, accident and emergency cases; contagious diseases, tuberculosis in hospital and sanatorium, and orthopedic surgery. They are assigned to a large obstetrical clinic and to a great dispensary practice in the medical school.

They receive their living and laundry expenses, but they are paid no bonus. They have the same privileges as all other women students on the university campus. They live under student government. They all receive the university's degree.

The problem of the organization of similar central uni-

versity schools is under consideration in other large cities. The transfer of educational responsibility to the teaching institution, the placing of hospital nursing services under its control, the standardization of courses, the unity of instruction should commend the development of such alliances.

There is every indication that these central university schools will thrive and grow; that they will prove not only an attraction to the beginning student, but to the graduate who is seeking to broaden her vocation. Higher education and particularly professional education is a university function and the chooser of such a calling will set a justly high value upon a university degree.

The history of medical education in America is destined to be the history of nursing education. The private schools have gone or are going out of business. They are merging in the universities or they are becoming extinct. There will be a remnant of small hospitals which cannot associate themselves with teaching institutions and these will eventually abandon the maintenance of schools of nursing and will come to rely more and more upon graduate nurses for service.

No great gain is to be accomplished without some loss. To establish the profession of nursing upon a sound educational basis; to have a university guarantee of the fitness of the nurse for the service of the public; to standardize undergraduate education in nursing; to build upon this broader foundation advanced courses in specialized nursing—these are surely great gains.

No one familiar with the recent history of nursing can fail to realize that there is a social, as well as an educational side to the problems of the nursing profession of today. And with this side the public is equally concerned.

The most serious question is the adjustment of costs for graduate nursing service to the needs of all economically conditioned classes of society.

Nursing Service for the Middle Classes

Nursing costs are not high. They do not exceed the wages of unskilled labor. If graduate nurses worked on hospital or private duty 364 days in the year, they would earn on the average at present rates some \$1,800; and everybody knows that they do not and cannot serve in this continuing fashion. A woman who is on hospital service for twelve hours a day or in personal attendance on her private patient for a possible nineteen hours a day cannot keep it up all the while.

Nevertheless, the fact must be recognized and reckoned with that sickness, to the great majority of people, is an economic burden which brings them speedily to the verge of financial disablement, and that to them the services of the educated nurse are as indispensable as to anyone else. The suggestion that they be served by nurses of inferior quality is obnoxious.

The scales of social justice are sometimes curiously unbalanced. The indigent sick are cared for by nurses in more or less advanced training, under close graduate supervision, and they fare well, as they should, at the cost of the people at large. The well-to-do command graduate nursing and often absorb more than their necessary share of the nurse's time.

But, for the benefit of the many who will *not* be indigent and are not wealthy, a careful study of the ways and means by which graduate nursing service may be furnished at graded cost should be undertaken in every state by properly related public bodies in consultation with nursing organizations or with committees of representative nurses.

DIETETICS AND INSTITUTIONAL FOOD SERVICE

Conducted by LULU G. GRAVES,
Supervising Dietitian, Mt. Sinai Hospital, New York.

DRY MILK—HISTORICAL AND CLINICAL

By LOUIS J. AUERBACHER, New York City

THE many disadvantages of handling and transporting liquid milk naturally led step by step to condensing. The success of the condensed product encouraged inventors to devise some means by which all the water could be taken out of the milk, leaving only the milk solids. Many attempts were made to make dry milk, and desiccated milk was made as far back as 1868. In 1892 Stevensen and Murphy mentioned dry milk as one of the best forms of concentrated milk. Many inventors have developed different processes, but at the present time there are only two processes that have been developed to large commercial enterprises.

The drying of milk for commercial use is largely done by the spray process and by the hot roller process. When the former method is used, the milk is first pasteurized at a temperature of 140 to 145 degrees F. for thirty minutes, after which it is condensed in vacuum after the manner of the regular condensed milks. The ratio of concentration is about $3\frac{1}{2}$ to 1 for whole milk and about $4\frac{1}{4}$ to 1 for skim milk. The condensed milk while warm is forced through a small opening in a special designed disc under a pressure of several hundred pounds. This high pressure forces the milk into a large drying room in the form of a fine spray. Within the drying chamber circulating air is heated to about 230 to 240 degrees F. This high temperature causes a rapid evaporation of the water in the milk spray, which evaporation in turn lowers the temperature of the air in the room to about 180 degrees F. As the water is evaporated the milk solids fall to the floor and remain there in the drying chamber for a period varying from four to eighteen hours, depending upon the frequency of removal.

Hot Roller Process of Drying

When milk is dried by the Just or hot roller process the handling and processing by heat are reduced to a minimum. Instead of the milk being heated at any time previous to the actual drying process, it is cooled to 40 or 50 degrees F. in glass lined tanks immediately upon receipt at the factory, and held at this temperature until standardized and run on the drying machines. The actual drying of the milk is accomplished by allowing the cold milk to run between two hollow steel cylinders heated by steam pressure to about 240 degrees F. These steel cylinders are placed close together in such a manner that they revolve in opposite directions. The water in the form of vapor is carried off by suitable draught stacks and the milk solids which remain on the cylinders for only a few seconds as a thin film are cut off by a sharp

knife extending the entire length of the cylinder. This film of milk solids, entirely free from moisture as it leaves the knife edge has the appearance of white tissue paper. The film is immediately sifted to a fine flaky powder and placed in hermetically sealed containers within a short interval after the milk has left the cooling tanks.

When taking up the use of dry milk in connection with infant and convalescent feeding, I was much impressed by the simplicity of drying by the hot roller method, and clinical and other tests seemed to indicate that this process had many advantages from a clinical standpoint. I therefore took steps to develop this process and all facts concerning dry milk discussed in this article are the facts as disclosed by the hot roller method of drying.

The drying of milk makes many physical, chemical and biological changes in the milk. It seems to be almost providential that these changes as indicated by clinical and scientific evidence all tend to give the milk a higher nutritive index and make the milk much more assimilable and digestible.

Formula for Infant Feeding

About ten years ago I became interested in dry milk for the feeding of infants and introduced the milk into this country, importing some from France which had been used by a number of doctors with marked success. I took up the matter with a number of infant specialists and others interested and many tests were made so as to evolve the proper formulas, especially the proper percentage of fat which would meet the majority of conditions met with in infant and convalescent feeding. The formula finally arrived at is given below:

Fat	12%
Lactose	46%
Protein	32%
Salts	7%
Moisture	3%

The nutritive value of dry milk having the above formula is 127 calories to the ounce, or if expressed in Prof. Pirquet's unit NEM, it has a value of 6 NEMS per gram.

The references made in this article to the clinical uses of dry milk will be based on the use of milk having the above formula. Clinical evidence of the last ten years all seems to sustain the earlier researches that this formula is the one best borne by the infant as well as the adult. This formula is arrived at by taking off part of the butter fat.

During drying there are changes in solubility brought about in the protein, particularly the casein, when the

milk is dried by the hot roller process. The peculiarities of the drying process change the casein, causing it to rest in a more definite suspension when diluted with water. Many of these particles may be precipitated by centrifuging, a result which cannot be obtained with liquid milk when the same degree of force is used. This degree of insolubility of the casein is no doubt brought about by the heat to which it has been subjected. This condition, however, is of the utmost importance from a nutritional standpoint, as it prevents the casein from forming large tough curds in the stomach. The casein particles are not subject to the coagulative action of the gastric juices, thus offering a much larger area in proportion to their size for the action of the digestive fluids than do the tenacious curds of cows' milk. A statement which is constantly made relative to the milk dried by the hot roller process is that the lactalbumin is entirely coagulated. This statement is not correct; results show that from 50 to 80 per cent of the albumin remains in soluble form as in the liquid milk from which it is made.

Butter More Digestible than Cream

The fat in dry milk is present in a more butter-like condition and in this form is more easily digested than when in the form of cream. It contains more free fatty acids than does cream, and as in the small intestines, where the fats are digested and absorbed, much more fat is taken up in the form of free fatty acids and soaps than in the form of neutral fats, the particular form renders it undoubtedly more easily absorbed than cream. It is of great value that the free fatty acids combine with the comparatively insoluble calcium and magnesium salts present in the intestines to form calcium and magnesium soaps, and thereby facilitate the absorption of these substances which are of great importance for the growth and development, particularly during the early years of childhood.

It is not at all a matter of indifference as to the form, whether as butter or as cream, in which fats are digested, for many a person whose digestion is weak can digest large quantities of butter, but cannot bear cream. This difference in the digestibility of these two forms of the fat may chiefly be due to the fact that in the cream the fat is present in the form of globules of neutral fat which in order to be absorbed must first be split up into fatty acids and glycerin. Butter, on the other hand, contains approximately seven per cent of fatty acids (butyric acid, capronic acid, etc.) and, therefore, is already partially ready for the absorption. Butter, hence, is more rapidly and completely absorbed than cream. When it becomes necessary to add fat to the diet of children and for adults with weak digestion, butter had better be added in most cases, rather than to add larger quantities of cream to the milk, and the more so as experiments by Pawlow have shown that cream decidedly retards the secretion of the gastric juices. Following the ingestion of 600 cc. of milk, 4.2 cc. of gastric juice were secreted in 1 hour, 12.5 cc. in 2 hours, and 13.2 cc. in 3 hours whereas following 600 cc. of cream only 2.4 cc., 3.4 cc. and 3.1 cc. were secreted respectively in like periods. A milk in which the cream has partially become converted into butter is accordingly most advantageous for the digestion, and such a milk we have in the milk-powder milk.

Furthermore, the character of the emulsion exhibited by the milk-powder milk is favorable for digestion, as the fat globules are exceedingly small (their diameter is on an average less than 0.01 millimeter) and they are uniformly distributed through the milk. The uniformity may be even

further increased by shaking the milk for a few minutes in a flask, whereby the milk at the same time becomes more palatable on account of its becoming saturated with air.

The tests in artificial digestion have also demonstrated that two constituents of the milk-powder milk, the fat and the albuminoids, have undergone a change which makes them more easily digestible. Even though the processes which take place in natural digestion may vary to a not inconsiderable extent from those that obtain in artificial digestion, the results obtained are nevertheless of great value, particularly for purposes of comparison.

Mineral Constituents Are Compared

In the following table will be found the percentages of the different mineral constituents in fresh whole milk which are in true solution as compared with dry milk in order to show the changes in solubility produced by drying.

DEGREE OF SOLUBILITY OF SOME OF THE MINERAL ELEMENTS IN MILK AND DRY MILK.

	Chlorin	Phosphorus	Calcium	Magnesium	Sodium	Potassium
Fresh cow's milk.....	100.00	53.60	33.33	53.85	100.00	100.00
Dry milk	100.00	36.62	14.90	15.00	100.00	100.00

In connection with the above figures it is of interest to note the percentages of soluble calcium in the two products. In fresh cows' milk 33.33 per cent of the total calcium is soluble; the dry milk shows a decrease in the percentage of soluble calcium. This change in the solubility is an important factor to be considered in connection with the use of dry milk for infant feeding. Cows' milk when used for infants contains an excessive amount of available calcium which is responsible for the soap stools and protein curds eliminated by most bottle-fed infants. From this standpoint, therefore, any method or process which reduces the soluble and available calcium in cows' milk is a very desirable attainment.

We have briefly outlined some of the changes taking place in the physical and chemical structure of the milk during drying. There are also changes in the bacterial content of the milk and the following table shows the relationship of the bacterial content of liquid milk and the dry film taken direct from the rolls.

Date	Liquid Milk Bacteria per c.c.	Dried Film Bacteria per gram
6/26	2,750,000	270
7/2	12,000,000	550
7/2	147,000,000	600
7/3	280,000,000	880
7/3	345,000,000	520
7/7	1,520,000	520
7/8	2,300,000	520
7/9	3,100,000	200
7/9	1,700,000	1,350
7/11	2,100,000	220

The bacteria in milk powder die off very rapidly during storage, and in normal powder with low bacterial content and normal flora a point of constancy in numbers of only a few per gram is reached after two to four months.

The above results indicate that there is no direct relationship between the bacterial count in the liquid milk and in the powder, providing the machines are being properly operated with constant steam pressure as was the case in these experiments. It is noted that there are marked differences in the bacterial count of the different samples of liquid milk but that the bacterial count of the film remains practically constant. The majority of bacteria found in the film were spore-producing species which can only be killed by exposure to high temperatures for a long period of time. All investigations made thus

far seem to show that no pathogenic organisms survive this method of drying milk.

In addition to the advantages that dried milk seems to have from a nutritional and digestive standpoint, there are of course many evident advantages in the fact that it is a dry powder and can therefore be readily handled and transported and is not subject to rapid deterioration. Four ounces of dry milk represent about a quart of liquid milk. A cubic foot of dry milk represents about 100 quarts of liquid milk. There is therefore great economy in the storing and shipping of dry milk as compared with other forms of milk, and of course it has a distinct advantage in that no refrigeration is required.

The keeping qualities of dry milk are dependent upon a number of factors. First, the liquid milk from which it is made should be of low acidity and be dried as soon after milking as possible. The milk should be packed in hermetically sealed containers so as to prevent the increase of moisture and oxidation of the butter fats. It should also be stored in as cool a place as possible which also tends to prevent acceleration of the rancidity of the butter fats. There are other factors, such as the catalytic action of metals which are also important in connection with the keeping qualities of dry milk.

In recent years the question of vitamins has assumed great importance, and therefore any process which tends to destroy the vitamin content of the food dried should not be employed. There have been many investigations made with dry milk by well known investigators on this important subject, and all researches have conclusively shown that milk dried by the hot roller process has not lost its vitamins to any appreciable or important degree. These researches have disclosed that it is not the degree of heat applied that tends to destroy the vitamin content but oxidation and the length of time heat is employed are the most important factors. It has also been shown that the original liquid milk is high or low in vitamin content according to the rations of the cow, so very often winter milk will be low in vitamins by reason of the fact that the food of the cows is low in vitamins, as compared with pasture fed milk.

Many articles have appeared in the medical press since dry milk was first used for infants in 1903 and much has been written in the various books on infant feeding regarding the use of dry milk. All authorities seem to agree that it has many advantages and its use is now quite general. It is obvious that it has many advantages for clinical and out-patient use. Dry milk can be readily dispensed and will keep in good condition without icing. The results on a large scale in clinics have shown that the usual high summer infant mortality can be very much reduced as infectious diarrheas are not induced by the use of milk in this form. Dry milk has been a very large factor in war relief work. Its small bulk and high nutritive value has been of distinct advantage in relief work in Europe, and the Red Cross and other organizations have made excellent use of this product.

Dry milk has been found of distinct advantage also in feeding very ill infants and prematures. Many authorities are urging its use as an added feeding for babies getting breast milk. In the majority of cases it has been found that mothers have not a sufficient milk supply but that if one or two feedings per day of dry milk are given, the mother not only has an opportunity for recreation and rest but her milk supply is much improved. It has often been found that breast feedings could be maintained by the addition of such dry milk feedings whereas otherwise they might have had to be discontinued. Dry milk is well borne by infants as an added feeding and is

also very economical, as a can will last a long time and the contents do not deteriorate after being opened.

The success of the use of dry milk with the very sick baby has naturally led to its use for those suffering from impaired digestion and for feeding in febrile conditions. In tuberculosis, empyema, typhoid, and in fact all invalid feeding cases, dry milk has proved of distinct advantage.

Instead of being given in a liquid form having approximately the same milk solids as contained in liquid milk, it can be given with very little water added, and thus a maximum amount of highly nutritious food, small in bulk, can be given.

To sum up: We might say that dry milk is a form of milk possessing every advantage from all standpoints over other forms of milk, and therefore would lend itself to all types of feeding cases. Given the same skill and care in use as that given to other forms of milk, the results should be better owing to the fact of its high nutritive and digestive value.

NEWS ITEMS

Miss Bertha Wood has given up her work at the Food Clinic, Boston Dispensary, to take charge of the food and nutrition work in the Seminary at Northfield, Mass.

Miss Marion Peterson, formerly of Swedish Hospital, Minneapolis, is administration dietitian at Lakeside Hospital, Cleveland. She will have charge of all administrative work.

Miss Jean Ferguson gave up her work at Butterworth Hospital, Grand Rapids, Mich., recently to accept a position at Hackley Hospital, Muskegon, Mich. Miss Zoe Fink follows her at Butterworth.

Bulletins issued by the Chicago Dietetic Association contain the following announcements:

"Miss Ruth Chambers, who was formerly at Michael Reese Hospital, is now at St. Luke's. Her successor, Miss Alma Kitte, comes from the Vanderbilt University Hospital, Nashville, Tenn."

"Miss Ila Monohon and Miss Lillian Carr, pupil dietitians at Cook County, and Miss Sylvia Andurski of Michael Reese are now on the Infant Welfare Society staff."

Miss Anne Upham, who has been with the U. S. Rubber Co. since leaving the service, was married June 6 to Dr. Everett Whitcomb. They are living in New York City.

Miss Adeline Wood is assistant dietitian at Mount Sinai Hospital, New York, in charge of the kitchen in the new private pavilion. Miss Wood is well known in the world of dietitians through her association with hospitals in various sections of the country—St. Luke's, Chicago; University Hospital, Omaha; and Walter Reed, Washington. Miss Minna Roese is assistant dietitian in charge of the diet kitchen, taking the position previously held by Miss Helen Glasier. Miss Roese was formerly with Miss Bertha Wood in Boston.

Miss Troutt, who has been assistant dietitian at Massachusetts General Hospital, has accepted a position at the Indiana University Hospital, Indianapolis.

The regular meeting of the Chicago Dietetic Association was held on Friday, April 21 at the Hospital Library and Service Bureau. Miss Mable Little, who was formerly in charge of the tea room at Marshall Field & Company and who is now director of halls and commons at the University of Wisconsin, gave a very delightful talk on "Tea Room Management." The problems and possibilities of this line of work were presented in a very practical way.

A SUITABLE DIETARY FOR THE WARD PATIENT

BY ESTHER H. FUNNELL, INSTRUCTOR IN NUTRITION, DEPARTMENT OF DIETETICS, LAKESIDE HOSPITAL, CLEVELAND

HOSPITAL administrators are continually having to face the problem of food service and its accompanying complications. To a certain extent the solution of this problem must rest with the individual hospital, yet the principles which underlie a well organized system of food service are so general as to afford profitable discussion.

The reputation of a hospital, particularly among the laity, is affected to no small degree by the kind of food served, the variety of the menus and the service itself. There will be "kickers," of course, but no hospital wishes to have a majority of dissatisfied patients and a staff of complaining workers. An analysis at this point may throw some light on the causes of dissatisfaction.

First of all, who are the patients? The private cases constitute the smallest part of the problem. They are paying for their stay in the hospital and in most cases are paying amply to admit of a variety of the best foods and adequate methods of service. These patients are for the most part average American people who are more or less familiar with the sort of meals the hospital will offer. There are, on the other hand, the ward patients who furnish little or nothing toward their maintenance. Among this group will be found the poorer class of Americans as well as the foreign-born. There will also be a small number representing a better class of people whose financial circumstances will not stand the expense of a private room. The result is that old and young, black and white, those with moderate means as well as the very poorest will find themselves snatched from home life of every description and grouped together amid the most unnatural surroundings.

Patient Often Faces Strange Menu

Perhaps, you say, they are too sick to know or care, and yet there must inevitably be a marked psychological reaction. Is it any wonder? Take, for example, an Italian laborer whose noonday meal might consist of a part of a loaf of bread hollowed out and stuffed with cooked eggs and raw onions and who would come home at night to a one-dish meal consisting of meat and greens cooked with oil and highly seasoned with garlic, onions and pepper. There have not been enough chairs in his kitchen nor enough plates or forks to permit the whole family to eat at the same time. One day he suddenly becomes an accident case in a hospital ward. His first tray will present untold difficulties. Instead of his one dish meal there appear four or five dishes, and he is apt to begin on the one which seems to look most familiar. There will be soup such as he never "drank" before, and three spoons from which to choose. There may be mashed potatoes and perhaps chocolate pudding which are completely foreign to his taste. In his complete bewilderment and fear of

"Unfamiliar food and hospital surroundings have a definite psychological effect upon the physical condition of the patient," says Miss Esther H. Funnell in the accompanying article. "These factors also account to some extent for untouched trays and the consequent food waste. It is essential for the dietitian to remember that it is not the printed menu which is indicative of the food service, but the actual food as presented to the patient. The tray must be attractive; the hot things must be served hot and the cold things cold. All food must be well prepared. Moreover, if any correlation between the diet and the condition of the patient is to be recognized, it is not sufficient to know what food is sent in on the tray. The actual food intake of the patient is the only factor which will offer knowledge of any scientific value to the dietitian."

the unknown he will probably not do justice to a perfectly good meal.

This illustration is not meant to suggest a foreign-born cook for each group of patients with orders a la carte. Its purpose is merely to show the psychological effect of unfamiliar food and hospital surroundings upon the physical condition of the patient. It may also account to some extent for untouched trays and therefore actual food waste. It is essential to remember that it is not the printed menu which is indicative of the food service, but the actual food as presented

to the patient. The tray must be attractive, the hot things must be hot and the cold things cold. All food must be well prepared. Moreover, if any correlation between the diet and the condition of the patient is to be recognized, it is not sufficient to know what food is sent in on the tray. The actual food intake of the patient is the only factor which will offer knowledge of any value.

Educating Patient and Community

In planning the meals for the ward patients, the dietitian must keep in mind the patients as individuals. The food must be simple and inexpensive, and, above all, well cooked. This presents a great opportunity for teaching the patients how to achieve a variety. The actual serving of this variety must be followed by frequent explanatory talks and by giving out printed recipes to the patients. It is absolutely essential to depart from the custom of serving chops, fowl, and other expensive foods in special diets if we are to be of service to the patients themselves.

There are also other groups of people in the hospital who can receive instruction under the direction of the dietitian. Among the employees there will be a large number of maids, each one probably representing a home in the community. They will naturally absorb a few ideas from the food which they see being prepared or served. A system of class work instruction, on hospital time, should aim to correlate these ideas in the minds of the workers. They should learn proper methods of preparing food and how to plan a variety on a small income. At the same time the instructor may teach them the care of cooking utensils and something about general habits of cleanliness. A certain amount of this knowledge will be reflected in the homes of the employees and the hospital will have done a small bit towards raising the standards of living in the community. On the other hand, there will be more intelligent service in the hospital and a better grade of work done.

Perhaps the points which have been outlined may offer some suggestions to hospital administrators of the opportunities which lie within the range of the dietary department.

HOSPITAL EQUIPMENT AND OPERATION

With Special Reference to Laundry, Kitchen and
Housekeeping Problems

Conducted by FRANK E. CHAPMAN, Director
Mt. Sinai Hospital, Cleveland, Ohio

RESEARCH AND ITS APPLICATION TO THE POWER LAUNDRY

BY ALICE L. WAKEFIELD, INDUSTRIAL FELLOW, LAUNDRYOWNERS NATIONAL ASSOCIATION FELLOWSHIP, THE MELLON INSTITUTE OF INDUSTRIAL RESEARCH, UNIVERSITY OF PITTSBURGH, PITTSBURGH, PA.

THE commercialization of that time-honored institution, the wash tub, has been fraught with much of romance and adventure. It was no easy transition from handling one family washing a week to handling several hundred family washings a day. Not only were there many times the quantity of actual laundering labor necessary, but new tasks were encountered. The collection and delivery of bundles have come to occupy the full time of a small army of workers; another group is kept busy eight hours daily at what was once a Sunday night practice for mother—"sorting the clothes." There must be washers, ironers and wrappers, and a complete office force to keep account of the activities of the whole group.

Fortunately for the laundryowner, there were some advantages to be gained by doing many bundles under one roof. In the first place, it enabled him to afford special machinery that could wash and iron more satisfactorily, in regard to both speed and finish, than was possible with the home types of machines. But after years of work in which various problems in mechanical technology had been met and solved, it was discovered that the game had just begun. The public was becoming accustomed to the service of the power laundry as a necessity rather than as a luxury, and as a result the standard for service was rising. The color of the work was no longer considered good; buttons were being torn off; fabrics were being damaged by careless application of washroom reagents: these were a few of the complaints entered against the power laundry. The laundryowner did not stop to ask how just such complaints were or how prevalent such conditions were in the home before the work had been entrusted to his care; but, with the zeal of a true enthusiast, he set about perfecting the chemical and physical technology of laundering as applied in commercial plants.

When he came to analyze the situation, he found that, to launder a garment, one needs water and soap and blue

More things than mere soap and water enter into successful laundering in the hospital. Standard procedures for the washroom have been worked out, but the hospital superintendent and laundry director need a knowledge that extends beyond washing supplies and methods. Certain definite factors enter into the washability of a fabric; among them are the mechanics of weaving, the chemistry of finishing, and the usage to which the fabric is subjected. If table linen shrinks near the selvedge that is the result of poor weaving mechanics. Bleaching, dyeing and sizing, all have a direct bearing on successful laundering. Careless usage of linens necessitates extreme treatment in the laundry with a consequent lessening in service. Miss Wakefield's article will give hospital laundry managers a glimpse into the vistas ahead in scientific laundering.

and numerous other materials that were known only under trade names. Sometimes the product was good and sometimes it was poor, in spite of all efforts to insure against changes in the procedures employed. Further analysis of the situation by the laundryowner himself was impossible, because to him soap was only soap, and water was merely water. Why soap was soap and how it acted, why water was water and what complications might result from the use of impure water, were as great mysteries to him as to any other layman. And here

the industry stood for some time, each man doing his best to obtain the key to the situation.

For the past eleven years it has been the privilege of Pittsburgh, Pa. to have one of the most unique and stimulating aids to industrial progress to be found in the world. The Mellon Institute of Industrial Research of the University of Pittsburgh, where the chemical problems of many industries have been successfully solved, attracted the attention of a group of local laundryowners, who established in 1914 an industrial fellowship for the investigation of laundry problems. These pioneers were permitted to monopolize this service for only eighteen months, when the Laundryowners National Association assumed the financial obligations of the fellowship and opened its services, free of charge, to the national membership of nearly 2,000 individual laundries. The fellowship is still in operation, and each month it enlarges its field of service and establishes it more firmly as a vital adjunct to the proper functioning of the modern power laundry. Its personnel has increased from one investigator to three; its duties have grown from the investigation and control of laundry processes to include educational work with the public as well as the laundries, and co-operation with such allied industries as the manufactures of laundry supplies, dyes, and fabrics. (See Fig. 1.)

The first problems attacked by this Industrial Fellow-



Figure 1.—A view of one of the laboratories of the Industrial Fellowship of the Laundryowners National Association at the Mellon Institute, University of Pittsburgh.

ship were the standardization of washroom supplies and washroom methods. No member of the Laundryowners National Association now need be uncertain of the nature of the materials which he wishes to use. A sample submitted to the association laboratory in the Mellon Institute furnishes the desired information as well as advice respecting the value of the product as compared with standard materials. For it was first necessary to establish definite standards for supplies and procedures before individual problems could be answered. This work of standardization has been assembled and presented to the membership of the association in the form of a book, the *Manual of Standard Practice for the Power Laundry Washroom*. Standard formulas for washing all types of fabrics have been presented, together with discussions of water, soap, soda and other supplies which are used in the laundry. These discussions are designed to enable the individual laundryowner to control local conditions so that the standard formulas are applicable.

The possibility of the public laundry acting as a disseminator of disease has not been overlooked. The bacteriological findings of the laundry fellowship have been upheld by work done by the United States Bureau of Entomology¹ and by the United States Public Health Service.² The conclusions may be summarized by saying that the average laundry process, including a treatment for at least twenty minutes at a temperature between 140°F. and 160°F., destroys all pathogenic non-spore bearing organisms. The dry rooms and tumblers and the ironing process are sufficient to finish the sterilization of all garments. These conclusions were considered when the standard recommendations were prepared for the association by the industrial fellowship.

During the period of investigation which preceded the announcement of a standard procedure for the washroom, it was discovered that the procedure could be standard only as the materials to be laundered were standard. Consequently, the study of textiles were undertaken with the view of determining their components and the influences exerted on each by the several stages of laundry technology. It is common knowledge that our clothing is made of four main types of fibers, viz., cotton, linen, wool and silk; but how many of us know why these few fibers have survived the test of time? What characteristics do these materials possess that enable us to form

them into fabrics which will meet our demands? And again, what demands do we make of fabrics?

Fibers That Survive in Fabrics

In the first place, a fiber, in order to comply with the needs of our modern methods of textile formation, must process sufficient length to permit it to be spun or twisted with its fellows into a continuous thread suited to the process of weaving. If it were only necessary that the fiber be possessed of such qualities as to permit it to be woven into a fabric by our present methods, the list of available fibers would be much longer. But this is not the case. The demands made upon textiles by the consumer are that they be soft, pliable, strong, beautiful and capable of being renovated; and, in special cases, that they be able to absorb moisture readily and insulate the body from heat and cold. These characteristics may be woven into a fabric only when they are possessed by the individual fibers that form the threads. It may readily be seen, therefore, why no more than four of all the fibers produced by nature possess all the features which make them desirable for clothing materials.

The natural features of the fibers may be sacrificed or intensified by the mode of weaving employed. A strong fiber, poorly spun and loosely woven, may furnish a far weaker fabric than an inferior grade of fiber, well spun and closely woven. It is always necessary to sacrifice some degree of strength and utility to obtain beauty by means of patterns woven into the fabric. The high development of the art of spinning and weaving makes it difficult to detect the true composition of a fabric. Cotton is made up to resemble all-wool flannel; artificial silk is presented as true silk; rugs and towels have been found composed mainly of paper. Therefore in the development of the washroom formulas it has been necessary to study both chemical and physical effects on the fabrics. It has been found that cotton and linen are related both in origin and chemical activity, while wool and silk may be classed together for similar reasons.

Cotton and linen, the vegetable fibers, are the least ac-

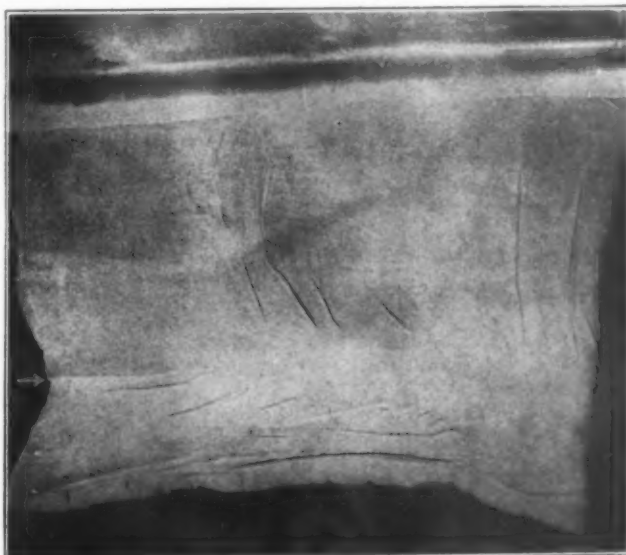


Figure 2.—The shrinkage is confined in this table linen to a group of warp threads near the selvage. Such localized damage cannot be regarded as the result of improper laundering even when one is ignorant of the real cause. The real cause is that the affected threads have been held under greater tension on the warp beam than the other warp threads have. This tension was continued during the finishing process until the sizing had dried and a straight fabric was insured. Laundering has merely removed this tension and has permitted the threads to assume their normal positions.

1. U. S. Public Health Report 36, No. 14.: "The Adaptability of Modern Laundry Machinery to Various Requirements for Delousing and Disinfection."

2. U. S. Public Health Reports, Vol. 32, February 9, 1917, p. 243.

tive chemically. They will stand treatment at higher temperatures and with greater concentrations or reagents than the animal fibers (wool and silk). Then, too, they can survive greater mechanical action without serious detriment to the fabric. Since cotton and linen garments usually receive harder wear, and, as a consequence are soiled more than silks and woolsens, it is well that they are able to stand the more severe treatment necessary for proper renovation.

Besides the chemical and physical properties of the fibers themselves, there are certain other factors that influence the washability of a fabric. These are the mechanics of weaving, the chemistry of finishing, and the usage to which the fabric is subjected. A good example of the difficulties encountered as the result of poor weaving mechanics appears quite frequently in table linens. The fabric will shrink in a stripe near the selvedge. The unshrunk portion on each side is puckered and can not be ironed smooth. (See Fig. 2). The shrinkage always occurs in the warp threads and may be accounted for by the fact that the threads affected have been strung on the loom under greater tension than the other threads. This tension is maintained throughout the weaving and finishing processes, and the fabric is purchased in apparently good condition. However, yarns assume a normal tension in the presence of moisture (which change is termed shrinkage) and it is to be expected that the shrinkage will be greater in threads that have been worked up under the greater tension.

An Example of Unethical Stretching

While shrinkage is under discussion, the reader may be interested to learn that the yardage of a manufacturer's output may be increased greatly by the simple expedient of stretching the cloth during the finishing process. When preparing to weave a fabric, calculations are made on the number of threads that are to occur to the inch. The theoretical number of threads necessary to produce a fabric thirty inches wide will in practice weave up to less than that width. Unless this fact is taken into consideration, the fabric must be stretched to measure thirty inches and must be dried under tension so that it will remain in that condition. A case has been observed in the Mellon Institute of a tissue gingham that shrunk from twenty-seven to twenty-five inches in width and lost only three inches in a six-yard length, when merely wet with water and pressed. The shrinkage in length was legitimate, because, to obtain an even, firm fabric, some tension must be exerted on the warp in the loom; but the shrinkage in width was the result of unethical practice on the part of the manufacturer.

The chemistry of finishing involves the bleaching and dyeing of fabrics, as well as the application of sizing materials. Occasionally one may find a piece of cloth that has been tendered by the action of the material used to size it, but the greatest difficulty lies with the bleaching and dyeing processes. During the period of bleaching chemical reagents are used which may cause irreparable damage if unfavorable conditions are permitted to occur. By careful supervision all damage may be avoided; but if certain precautions are overlooked during the progress of the treatment, the fabric may be ruined. The manufacturer is not always aware of the disaster and a piece of cloth may be released which will not give the service that is to be expected from it.

The dyeman in his turn may have many difficulties. One of the most exasperating conditions with which he must deal is the effect of sulphur dyes on vegetable

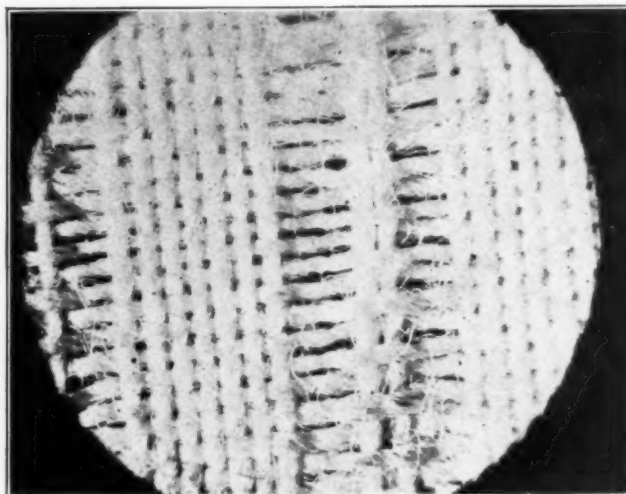


Figure 3.—A madras shirting after the black threads, forming the stripes, were removed. The threads were so tendered by the sulphuric acid formed from the dye, that they readily dissolved in soap and water during the laundry process.

fibers. Sulphur black is especially trying. The sulphur dyes are used widely because they are very satisfactory in regard to color, ease of application and cost. Unfortunately, however, some of their sulphur content (from which they derive their class name) will oxidize to give sulphuric acid, an acid which is extremely corrosive to vegetable fibers. It is so corrosive, in fact, that threads dyed with sulphur black and used to form stripes in madras shirtings are often affected to the extent that they wear or are washed from the fabric with ease. (See Fig. 3.) So far it has been denied the chemist to discover just what conditions favor this change to sulphuric acid.

In the home and in institutions, linens are frequently used in ways for which they are not intended. But suppose that we consider only what might occur in the pursuit of one's normal routine. The business man whose car is his hobby takes little consideration of the storage batteries. A little splash of liquid from them is entirely without significance to him, yet this liquid contains sulphuric acid, which is corrosive to cotton and linen. The housewife knows nothing of the nature of hundreds of articles used daily in her routine of homemaking. Many of them are strongly corrosive chemicals that are handled with great care by those who know their nature. Few physicians and nurses realize the destructive nature of some of the medicines they handle every day. In the recent epidemic of influenza, that well known tonic combination, "I. Q. S.," was consumed by the gallons. The iron is present as soluble ferric chloride, which readily attacks cotton fibers. The Dakin-Carrell solution is the laundryman's old friend javelle water. The laundryman knows that it must be handled with care but all users do not.

A treatise prepared by the Laundryowners National Association fellowship deals with the important subject "The Conservation of Textiles" and includes a plea for a pure fabric law to be similar in scope and value to the present pure food law.

Research and its application to the power laundry! We have discovered that its application is wide. So wide, indeed, that it could well have a subdivision—research in its application to the ultimate consumer. The ultimate consumer does not realize the fascination of research; were such the case, this branch would already be established.

HIGH PRESSURE STEAM: A HOSPITAL NECESSITY

By FRED WOOD PHIFER, M.D., MEDICAL DIRECTOR, THE WHEATLAND HOSPITAL, WHEATLAND, WYOMING

IN THE last few years there has been built a constantly increasing number of small hospitals ranging in size from five to 100 beds. It is probable that there are now ten of these for every one of a larger size, and that they care for a total number of patients not far below the total cared for by the combined large hospitals of the country. The problems of these smaller hospitals are therefore of increasing interest; but they are so comparatively new that there are not many persons of sufficient experience to speak with authority concerning them. And yet, of course, conclusions without experience have no weight.

It is for this reason that, before giving expression to any opinions on steam, I ask permission to write in a rather personal way of my own experience acquired in the building and management of a hospital that has grown from two to 100 beds, covering in twelve years most of the stages in between.

Some years ago I found myself in a little western town with a sick wife, a head full of surgical knowledge and an empty pocketbook. In a very short time I found the climate beneficial to my wife and in a few more months decided that my surgical knowledge would be a real asset if I could put it to some use. The sick, the maimed and the crippled we have with us always, even in healthful Wyoming.

Up to this time I was living in a hotel and depending upon my practice to yield enough to pay expenses each month. I finally located an office and a house. And then my troubles began, for I commenced to get the full force of the fact that I was in a small western town without water works, sewerage or electricity.

Installs His Own Plumbing System

This would be a long story if it told all the details. There was no plumber in town and I couldn't afford to import one so I dug my own ditches, fitted my own pipes and finally got in the first plumbing known to the town, learning many a valuable lesson while doing it. And in time all of the apparently insurmountable difficulties were overcome, and the hospital has grown and prospered.

But, if I leave out details of growth along other lines, I do want to describe the various stages of evolution in our methods of obtaining heat and power. Our first heating apparatus was a big base-burner, and our first sterilizer a little low pressure affair on the kitchen stove. Gloves were boiled immediately before using and put on wet. The kitchen stove method was better than none, but presently we reached the gasoline outfit in a sterilizing room set apart for the purpose.

Then one night, after playing with my small boy's steam boiler and engine which Santa Claus brought him from the toy shop, I decided to put a small vertical ten-horse power boiler in the basement and pipe steam to my low pressure sterilizer, putting a $\frac{3}{4}$ inch galvanized pipe in the bottom of the sterilizer to act as a steam coil. I soon had it all going, and oh, what a satisfaction to get away from the gasoline method of heating with its thousand and one objections.

The next step was to add a five-horse power steam engine and a laundry tub. You see we have jumped from the original dwelling (with its two rooms for patients,

operating room and a room for nurses) to a small newly built hospital, supposed to accommodate ten patients but quickly crowded with fifteen. This new hospital building was first heated with a hot water plant, but the next year when another and larger wing was added this plant proved inadequate, so that a low pressure steam heating system was substituted. As the hospital grew, more and more sections had to be put in.

Decides on High Pressure Boilers

In 1918 we were again building extensively, and a new and larger boiler room was planned. One day while watching the work, I suddenly told the engineer that I had a vision, and ordered the excavation for the low pressure heating plant discontinued. I was going to put in two high pressure boilers. Here I met with all sorts of objections from architect, engineer and plumber, not to speak of everybody else that felt entitled to an opinion on the subject; but I was obstinate and stuck to my decision. I had a competent man select two high pressure horizontal steam boilers, fifty and one hundred horse power, respectively. Under protest, I put them in, installing a reducing valve for heating purposes. And I have never regretted anything about the decision except that I did not order both boilers to be 100 horse power, as we have found it to be economy to fire the larger boiler. The new plant is less trouble to fire than the old low pressure boiler, and gives us all the steam we want, whether high or low, for heating or for operating purposes.

As you will have gathered from our history, we have tried practically every method of heating, and we are convinced that for any hospital that intends to do serious work, regardless of size, a high pressure steam plant is the thing. It should be sufficiently large to generate both heat and steam for general use.

It is probable that many will disagree with this conclusion. Certainly many architects for smaller hospitals are not of this opinion. Not far from us is a well planned and beautifully appointed hospital of 100 bed capacity. I had the pleasure of being shown over this hospital soon after it was opened, and it was a real pleasure too, for it was wonderfully planned, wonderfully built and wonderfully equipped. But when we reached the engineering department, I was astonished beyond measure to find a low pressure heating plant; and beside it, to generate steam for sterilizers and for the laundry, a high pressure vertical boiler that touched the ceiling. I asked the superintendent how they were going to clean the flues, and she naively asked: "Do you have to do that?"

A year later I visited them again and found she had learned a lesson, for there was a big hole in the ceiling over the vertical boiler, so that the flues could be drawn up into the room above, which had to be abandoned to the purpose. Moreover, in the backyard a new power plant and the laundry department. High pressure horizontal boilers were going in, and the old low pressure heater was for sale. Like ourselves, this hospital had learned by experience, but both of us would have saved much money and grief, if we could have had the benefit of some one else's experience.

We will grant without argument that for a high pressure plant closer attention is necessary than for a low pressure heater, and this requires more men in the engineering department. But my settled opinion is that a hospital can no more afford to do without steam all of the time than it can afford to do without nurses or a competent surgeon.

Heating Plant in Main Building Cheaper

Before we discuss the uses and convenience of steam, we might consider the location of the plant. From many points of view, it is better to put the heating, power and lighting plants in a separate building. Nevertheless, in a small hospital it is economical to have the heating plant in the main building; saves at least one-third in heat that is unavoidably radiated in the boiler room and laundry. The large two-story wing over our heating plant is not supplied with steam at all, as I had a special valve put in the steam line so that this entire wing may be kept cut off, and yet it is so much warmer than the rest of the building that we set it aside as winter-quarters for the "old crimps" who require extra heat.

It is our conclusion that a separate power plant is desirable, but it is not a necessity; and, where economy is a prime consideration, it seems better to me to sacrifice the cost of the extra building rather than something else more essential.

Whether the plant is on the outside or in the main building, it should be so placed that the prevailing winds will carry the heat towards the building and not away from it. It is surprising the difference this makes, as is clearly demonstrated when the wind is from other than the prevailing direction. Be sure that the architect plans not only a convenient entrance for coal but a convenient exit for ashes. For two 100 horse power boilers which are to be used alternately, there should be storage place for at least two car loads of coal. If coal is used for kitchen ranges and the like, a smaller separate storage room should be provided as a different kind of coal is required.

The steam engine, light plant and other machinery should be next the boiler room, but in entirely separate quarters.

Our high pressure steam plant furnishes heat to the building; power for running the steam engine, the light plant and the laundry plant, and an automatic air pump that furnishes air for our auto tires in the garage and acts as a force pump for the 4,000 gallon emergency water tank; it heats an abundance of hot water for use all over the house; furnishes steam to the kitchen for cookers, steam tables and dish washers; steam for the diet kitchen, for the two sterilizing plants connected with the operating rooms, for the nurses' work rooms and for bedpan sterilizers in each utility room.

Safety Device Controls Pressure

For heating, my favorite method is steam, and as I have said, I have tried all kinds, from the kitchen stove up. At the present time, we have two high pressure steam boilers set up side by side and piped together so that the steam from each or both boilers is readily obtainable at will. For heating purposes this steam, of course, must be reduced. A safety apparatus for this purpose is installed, which allows steam to pass at from one to four pounds, according to the way it is set. An additional safety gauge is also installed further out on the line. In this way, if anything should happen to the reducing diaphragm and high pressure steam should get

by, this second valve would pop off at four pounds, making it impossible for high pressure steam to reach the radiators.

On the side of the large common pipe line near the boiler, a two inch pipe line is connected which gives us our high pressure steam for running machinery, sterilizers and cookers. As mentioned elsewhere, the exhaust steam from the engine is also utilized. All valves and checks are carefully tagged so that any one who can read can easily understand which valves to open and shut. I am no steam engineer, but I have received a great deal of pleasure from studying out the practical uses and the complete utilization of steam in our building.

We carry from 40 to 80 pounds of steam the year round, except for the summer nights. During the warm months after six p. m., the fire is banked so that by 5 a. m. only 10 to 20 pounds of steam is registered. This amount of steam is sufficient for the sterilizers in the utility rooms; and if more is needed in an emergency it can be quickly raised. The day fireman comes on at 5 a. m. In the winter an extra fireman is on duty, and fires are banked at 12 midnight and opened up again at 4 a. m.

There are valves in the main steam lines so that any desired wing of the building can easily be put out of service; and, of course, any single radiator may be turned off at will. It is but the trick of a moment to turn on again the heat and it can be done without any noise or annoyance. A little watchfulness prevents much waste.

The steam, when condensed into water, is returned to the boiler by an automatic pump. More modern traps may now be used for this return flow to the boiler.

Plenty of Hot Water at Low Cost

Hot water for the house is furnished by two tanks, one 500 gallon for general use and one 200 gallon for the kitchen supply. The water is heated by live steam which is run through a two-inch pipe inside a six-inch pipe, that carries the water to the tanks. The condensation from the two-inch steam pipe is emptied into the main return from the radiators to the automatic pump and then to the boiler. In the summer when our laundry engine is running, the exhaust steam from this engine is thrown into this water heating pipe, and the direct steam line is cut off. In the winter months this exhaust steam from the engine is thrown into the main steam lines to heat the building, after first going through a separator which extracts all the oil and grease. The automatic pump is also run by steam, and the exhaust from this is used in the same way for heating water. By using this exhaust steam, we have an abundance of very hot water at a low cost.

The laundry machinery is run by steam and not electricity since the supply of the latter is uncertain in Wheatland, as it is in most small towns, and the cost is prohibitive. Our washing machines are brass and were especially built with a view to being steam tight. After the stain-removing process, the live steam is turned in, and every piece is sterilized except woolen goods or articles that are not color-fast.

Many smaller hospitals do not operate their own laundries, but we believe that a laundry is essential. There are a number of arguments in its favor, but none more important than this feature of sterilization. The first cost of the steam-tight tub is considerable, but the tub is durable; and it certainly is a satisfaction to feel that your patients are safe from any danger of cross infec-

tion through the linen. Its own laundry allows the hospital to use linen freely. This is hard on the linen, but it is mighty good for the hospital. Another advantage of having a laundry is that washing is done every day, and not so much linen has to be in stock at one time. This makes it much easier to keep up with the supplies.

Finally I believe the operation of a laundry pays the hospital in dollars and cents. In many cases the laundry can be made partly to pay its way by doing flat work for outside parties, such as hotels and boarding houses. Our laundry does this; and I know of several other hospital laundries which do the same thing with entire satisfaction to all parties concerned.

A large steam line goes direct to the kitchen, where the steam is used for cookers, steam table, dish warmers, dish washers and a sterilizer for milk bottles and milk cans. Not all of this equipment is necessary in every small hospital; but as the Wheatland Hospital owns its own dairy and produce ranch, it was essential to provide a sterilizer to care for the milk utensils.

Generate Own Electricity by Steam

The steam engine that runs the laundry machinery also runs our generators and supplies us with light. In addition we have an oil engine to run the generator at such times as the steam engine is not in use. We were forced to put in a light plant because until recently the town did not furnish the twenty-four hour current; but we feel that no hospital can afford to be without an individual plant that will be sufficient for emergency purposes. The operating rooms and maternity delivery room, at least, must be provided with a never-failing light system. In this hospital, in addition to light, our own plant supplies the current for our call system, dictaphones, telephone switchboard, and a rather extensive equipment by way of appliances for electrical treatments. In short our own plant serves every purpose except supplying current for the x-ray department. The x-ray equipment is not connected at all with the general wiring of the building but is supplied direct from the city plant on its own individual line.

The high pressure air pump, which is mentioned in a previous paragraph, is run off the same shaft as the generator. This pump is connected with a large air tank in our hospital garage, which is under the same roof as all the rest of the building. This pump, in addition to furnishing air for automobile tires, furnishes pressure for our large reserve supply water tank. This insures us against the possibility of ever being without water. We have had occasion more than once to be thankful for it.

And now we have arrived at the principal necessity for a constant supply of high pressure steam in a hospital, sterilization. In the operating rooms, it scarcely needs discussion. We have two entirely separate sterilizing plants, as our operating room for dirty cases is not even in the same wing as the main operating suite. For this secondary operating room, we have the usual large automotive and a utensil sterilizer, but the instrument sterilizer is electric as it is in frequent use both day and night. This electric sterilizer is satisfactory, but now that we have twenty-four hour steam service, there is no reason why it should not be a steam sterilizer, which we prefer because it heats the water more quickly.

The other sterilizing plant is situated between the main operating room and the maternity delivery room. In addition to the autoclave, instrument sterilizer and utensil sterilizer, there are three sterilizers for water, providing hot, cold and distilled sterile water at all times.

A Practical Utensil Sterilizer

But when you have proper sterilization in the operating room, you have just begun. And right here, I want to describe a homely apparatus in the main utility room, because, though simple and inexpensive, it is extremely practical. It consists of an ordinary clothes boiler in the bottom of which is a small steam coil connected directly with the main steam line. A faucet is attached to the side of the boiler to draw off the water or to drain the boiler. By simply opening a steam valve you have a quantity of boiling water in a few minutes, much more quickly than by electricity or over a fire. This simple apparatus is a perfect utensil sterilizer for a wide variety of articles in daily use from baby bottles to rubber tubing. A removable pan adds to its usefulness. It heats the babies' milk more quickly than the electrical hot plate with no danger of the milk boiling over if the nurse leaves it for a moment. It can even bake a custard, if desired. We find it simply indispensable, and yet it may be had at the outlay of a few dollars for material and an hour or two of the mechanic's time.

On each floor in each wing we have a bedpan sterilizer installed in the utility rooms. What a satisfaction to know that your bedpans are as clean as your breakfast dishes! We tried several makes of bedpan sterilizers before we found one that was satisfactory; and even in this one we asked for a few changes in order to make it, as we think, ideal and practically foolproof. The contents of each bedpan is sterilized every time, and at the same time the bedpan is washed and sterilized. The nurse need not even soil her hands, although we require that she shall wash them carefully before removing the pan from the sterilizer, which is opened and closed with a foot pedal.

We believe that many infections travel by the bedpan route, even when their use is not indiscriminate. We do not have public wards at all; and we tried having a bedpan for each room and for each patient, but the most careful regulation did not make even this satisfactory. But our bedpan sterilizer methods are working out satisfactorily. Individual urinals are used for each patient and all are boiled once a day. In the utility room of the isolation wing there is a hopper with an open steam line for sterilizing the linen of typhoid, influenza and similar semi-infectious cases. This hopper is some improvement over the ordinary clothes boiler as it is close fitting and will stand 100 pounds steam pressure. This is done for the protection of the laundry workers, as the linen is again sterilized in the regular laundry process. The same system is used in the wing for contagious diseases.

In all these and many more ways, our high pressure steam system is a pleasure and a joy forever. It is practical, flexible, efficient and no more expensive than any other system. We hope that hospitals that are in doubt in the matter may profit by our experience and be saved our travail of experiments and expense.

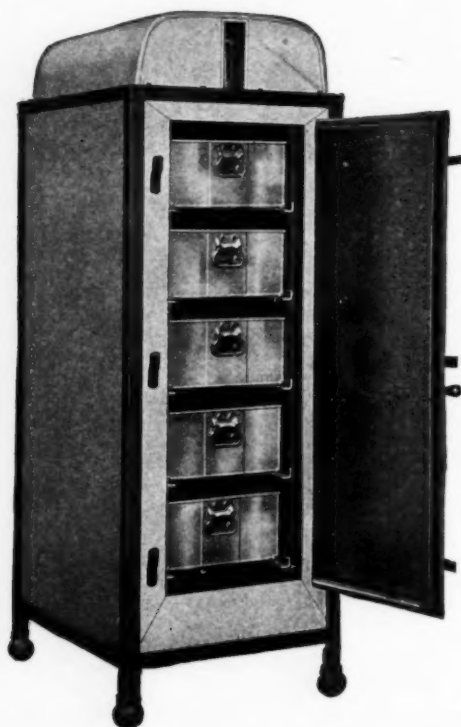
FIGURING THE COST OF CHARITY

The monthly statement of Presbyterian Hospital, Chicago, shows at a glance how much charity is costing the institution. Whenever a charity patient enters the hospital and is given a \$5 bed, he is charged on the books at the rate of \$5 per day, an entry noting that he is a free patient. The hospital works on the theory that the charity patient is taking away the \$5 daily which the institution could properly earn and so the service rendered him is entered on the books and charged off to charity.

LOW TEMPERATURE COOKING

Although the claims made by the manufacturers of a new low temperature cooking apparatus may appear revolutionary, yet this new process represents the results of more than twenty years' study and research and is successfully used not only in a number of well known hotels and hospitals but by the leading packers of the country in preparing food products for the market.

It must be emphasized in the first place that this new device is not a steam cooker as the cooking is not done under pressure but is accomplished at a temperature of 160 to 205°, depending upon the food that is being prepared.



Briefly stated the principle of the new cooker is 100 per cent saturation of the air in the cooker through the admission of live steam. The fact that the air is thoroughly saturated prevents evaporation of the food and thus allows it to retain all the natural flavors and juices and prevents the loss of weight, particularly in meats, through evaporation. Several types of these cookers are offered, one designed for meat, another for miscellaneous vegetables and the third solely for potatoes. Steam, at from three to five pounds pressure, is gradually admitted through a thermostatic control which allows only the necessary flow of steam into the cooking chamber. The steam is thoroughly filtered before it is allowed to enter and it completely saturates the air throughout the cooking chamber. As the thermostatic control prevents excess saturation, there is but a very slight condensation.

Dietitians are agreed that high temperature, particularly dry hot temperature in excess of 182° F., tends to harden the albumen, particularly in meats, and causes a shrivelling of the meat, evaporation of the juice and the subsequent loss of both weight and flavor.

In this new cooker it is claimed that the weight of the cooked meat is the same as the raw meat placed in the cooking chamber, an indication of a very considerable economy. In addition the saturated air and slow cook-

ing make tough meats tender and thus permit the use of cheaper cuts.

In the vegetable cooker a number of pans or containers are provided, each divided by a partition, so as to permit the cooking of as many as six different kinds of vegetables at one time. The complete saturation of the air insures retention of the natural flavor of each vegetable and prevents contamination with others. In vegetable cooking a maximum temperature of 205° F. is employed and this low temperature retains all natural salts that are found in the vegetables. Nor is there the flavor or odor of steam so frequently noticeable when vegetables are cooked above the boiling point under pressure.

The cookers are of a compact and attractive type. The cooking chambers are heavily insulated and retain all the heat which is furnished by the steam without radiation of heat into the kitchen.

The fuel cost is less than one-half cent an hour and the cooker can be operated either from a steam line or, if necessary, from an auxiliary steam generator because of the very low pressure required. The cookers are constructed of heavily galvanized iron, finished in luster enamel, which is not only rust proof but is easily cleaned.

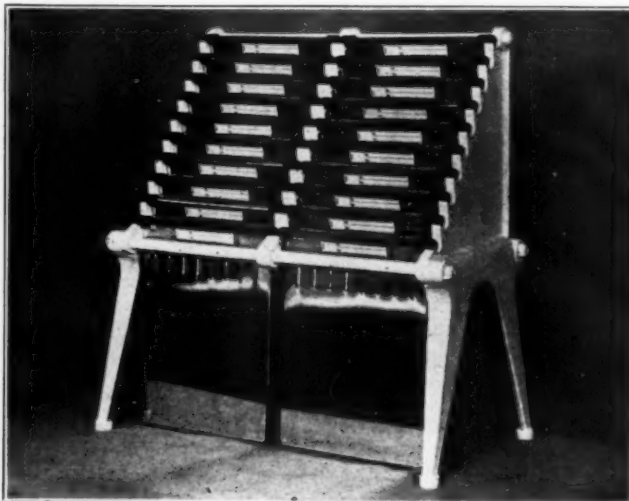
Naturally a low pressure cooker of this type is lower priced than pressure cookers, owing to the difference in construction needs.

VISIBLE CLINICAL RECORD

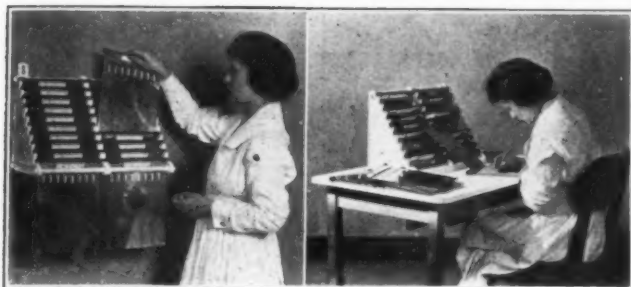
A unique device was exhibited at the recent A. M. A. convention in St. Louis, which promises to fill a want long felt by hospitals. It is termed a "Visible Clinical Record" and consists of an improved chart holder with a rack for holding a number of them.

The chart holder itself is constructed entirely of aluminum, with rubber endcaps to obviate noise and prevent marring furniture. The holder when opened, stays open, greatly facilitating the arrangement of sheets, which are further secured by being placed over two posts projecting from the back of the holder.

A card holder on the front provides a space for the placing of a slip bearing the patient's name and room number, together with the name of the attending physician. This is visible when the holder is placed in the rack.



The rack is constructed to provide for ten or twenty holders, but may be increased to any desired extent by adding more units. It may be hung on a wall, used on an



ordinary table or desk, or set flush on a specially constructed desk.

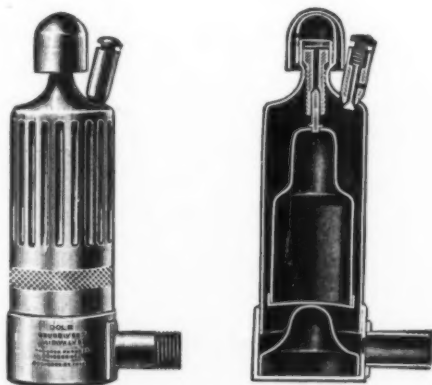
The accompanying illustrations give a good idea of the practical use of this device.

THE IMPORTANCE OF AIR VALVES

Few hospital superintendents fully appreciate the importance of proper air valves for the successful operation of their heating system. Yet, probably no other small detail connected with the heating system exercises so marked an effect on the satisfactory operation of the complete system. In fact the development of modern heating systems may be said to parallel very closely the development of the air vent valves.

The fact that the air valve is readily replaceable has prompted owners of obsolete heating systems to replace the old style valves with modern types, greatly improving the working efficiency of their heating system.

The original air valve was hand operated and while simple was quite successful, provided the persons in charge did not become forgetful and leave the air vent open, causing considerable damage and loss. From the hand operated air vent came various developments of automatic air valves.



One of the earliest of the automatic valves was designed according to the principle that carbon would expand and contract from the action of heat and cold. In this valve a carbon post was installed providing an automatic opening and closing of the air valve according to the heat in the system.

The earlier valves of this type had no provision against cold water flooding, but this was finally overcome in the hollow float containing the carbon post on the inside. While this valve proved quite successful it was easily damaged and put out of order.

The next step in the development of air valves was the introduction of what is now known as the thermostatic or all-metal air valve. The expansion liquid upon which the action of the valve was based could be absolutely depended upon to expand with heat and contract as soon

as it cooled below a certain degree. This method also permitted tempering the liquid to bring it to the predetermined point of contraction and expansion necessary to the effective operation of an automatic air valve.

Various types had been placed on the market, all efficient and good, but there still remained some obstacles to overcome. One of the greatest of these was the fact that an air valve, being located at the extreme end of a radiator or coil, was subject to flooding with cold water as soon as the pressure was turned on. When the valve was flooded, it naturally raised the float. This sealed the valve preventing the leakage of water; thus was formed a partial vacuum in the top of the air valve which prevented the float from falling. This meant sealing the valve and preventing the radiator from venting; the system thus became *air-bound*.

Different methods had been adopted, more or less successfully, for the purpose of draining this water, but still the fact remained that some means must be found to break the vacuum forming in the top of the air valve so as to permit the water to flow back freely into the radiators.

One of the leading manufacturers of valves in the United States has recently placed upon the market an air valve, built on the most modern lines, wherein the expansion liquid referred to is placed in the float of the valve, the bottom of which consists of a finely tempered spring bronze diaphragm, convex in shape.

As soon as the air is expelled from the system, the heat causes the liquid to expand, pressing on the diaphragm referred to, raising the float and sealing the valve.

This company has also provided a means of draining the valve against flood, by incorporating a small hand-vent at the top of the valve. All that is necessary is to touch this vent when the air enters from the top and the vacuum is broken. The water immediately flows back into the radiator.

The success of this valve and the method of its construction has proved that an ordinary, one-pipe system can be successfully vented automatically. Practically all the numerous obstacles that manufacturers have had to contend with since the introduction of steam have been overcome.

RADIOS IN THE HOSPITAL

The rapid advance in the development of radiophones and the establishments of broadcasting stations in every section has brought the new science into the hospital as a means of entertainment of patients. In some institu-



tions radios are used in convalescent wards with amplifiers and distributing horns so that every patient in the ward is given the enjoyment of the radio entertainment.

The illustration shows a typical radio receiving set as used in a private room for the individual patient.

PRESERVING FRUITS AND VEGETABLES

By HELEN P. TAYLOR, Assistant Dietitian, Rhode Island Hospital, Providence, R. I.

The Rhode Island Hospital has always paid some attention to the canning of fruits, but during the war the work was continued on a more extensive scale by including the canning of vegetables as well.

Each year the volume of food put under glass has been increased until last year the storerooms probably contained more home canned fruits and vegetables than could be found in any similar institution. Over 42,000 pounds, net weight, represented the amount of food preserved by the hospital last year. This included, besides fruit and vegetables, a large amount of jelly and pickled goods.

Much of the canning is done in a special room that has been fitted up for the purpose, although a great deal of it is carried on in the main and pastry kitchens. There has been no installation of equipment which is not also available for other work when canning is not going on. Both the open kettle and the cold pack methods have been used. Two-quart jars are used almost wholly as they are the most convenient size for dining rooms and wards, although some vegetables for diabetics and other special diets are put into quart and pint jars.

It has been necessary to employ extra help to assist during the height of the canning season, but if, for a day or two, the canning activities are light these extra persons are utilized for extra work such as cleaning, etc. On days when the canning work is especially heavy, all other work is made as light as possible.

Vegetables and fruits are bought when the market is crowded and prices are low, so that with the low cost of the raw materials and the elastic method of handling it, the hospital gets a much larger quantity and greater variety of preserved foods than it would otherwise be able to purchase.

The assortment of foods canned varies a little each year, depending upon the season and the market, but there is very little pause in the canning work from the marmalade, rhubarb and asparagus in the spring, through the rush of string beans, tomatoes, peaches, pears, etc., of August and September, to the cranberries of November. Finally when the storage shelves are filled it is no small relief to the steward and the dietitians as well as the other workers if nothing more can be thought of to be put into jars.

VISITING NURSES' KIT

While there has been a number of outfits designed for the use of visiting nurses, the kit illustrated is particularly comprehensive and provides the equipment necessary for almost any condition.

This outfit was designed for the Pacific Hospital of Los Angeles to meet the requirements of the visiting nurse in the home or when called upon to care for the patient in a strange hospital. Although the hospital may be equipped with all necessary supplies such as are included in the outfit, it is extremely difficult for a strange nurse to locate these supplies and secure them promptly when needed. For this reason, the Pacific Hospital designed this

special nurses' kit which is furnished to graduate nurses when going into other hospitals on special cases. With this kit in her possession, the nurse is not called upon to ask for every one of the common articles which she needs and is able to devote herself exclusively to the care of the patient.



emesis dressing basins, large and small pitchers, tray, medicine glass, medicine dropper, drinking tube, box of vaseline, and one drop light.

These are all packed in a fiber case 17½x15x6½ inches with a typewritten list of contents pasted on the cover.

IN PLACE OF A DOOR KNOB

For one, with both hands and arms full, to approach a closed door has always been an experience fraught with danger to both load and temper.



To overcome this difficulty a new form of door handle has been devised at the Royal Victoria Hospital at Montreal. It consists of a protruding hook, as illustrated herewith, around which nurse or surgeon may hook the arm to open the door. This handle is valuable for use after the hands have been scrubbed and made sterile.

"Observation may always be improved by training—to look is not always to see."—Florence Nightingale.

OCCUPATIONAL THERAPY AND REHABILITATION

Conducted by HERBERT J. HALL, M.D., President, American Occupational Therapy Association,
Devereux Mansion, Marblehead, Mass., and MRS. CARL HENRY DAVIS,
Advisor in Occupational Therapy, 825 Lake Drive, Milwaukee, Wis.
Co-Editors: LORING T. SWAIM, M.D., 372 Marlboro St., Boston Mass., and
MISS MARY E. P. LOWNEY, Room 272, State House, Boston, Mass.

THE ACTIVITIES OF THE STATE AND PROVINCIAL SOCIETIES OF OCCUPATIONAL THERAPY

THERE is no greater proof of the steady growth and development of occupational therapy than the organization of state societies. The state is the logical unit of activity. It is small enough to keep in touch with individual workers and to promote occupational therapy according to local needs, and yet it is large enough to be a state power and through affiliation with the national society to be an influence through the country at large.

When a group of enthusiastic therapists find mutual interest and the solution of common problems in acquaintance and discussion, a state society is born. Organization brings power and inspiration. It provides lectures, meetings and library facilities, initiates legislation, and may even promote sales and purchases. These are not only opportunities which are inaccessible to individual workers but they strengthen the work with hospitals and doctors and arouse the interest of the public.

The American Occupational Therapy Association welcomes the organization of each state society with a two-fold joy; first, because each society means a new and strong group of therapists, and the work in each community can be best furthered by those within it; second, because the American Occupational Therapy Association is a national organization and each new society, with its proportion of delegates, represents a new section of the country which influences the policy and adds to the power of the association as a whole.

As occupational therapy develops in this large country, the state organizations must more and more be looked upon as the unit of activity in government representation, extension and promotion. The American Occupational Therapy Association needs the widely scattered centers of state societies and it needs the strength and activity of these organizations just as the state societies need the unifying and coordinating of their efforts in the national organizations. The American Occupational Therapy Association makes possible the inspiration and the contacts of the annual meeting. The large organization stands back of each small effort giving it weight and prestige. The American Occupational Therapy Association can make available for local societies a national, if not international, knowledge of occupational therapy and closely allied interests. The national organization has such contacts as that of federal government, the American Hospital Association, the American Medical Association, the National Tuberculosis and Mental Hygiene Associations. It may keep on file at headquarters details concerning

every worker, available positions, salaries, and state, county and municipal legislation, as well as civil service requirements.

Each therapist may serve best, and realize the greatest rewards in her community, with the assistance and backing of her state and national organization. Loyalty to one is not lessened by devotion to the other, as they work together, parts of a great whole, and service through the avenue of occupational therapy is expressed in both.

—[Editor's Note.]

The officers of each society and a brief account of their work follows:

WHO'S WHO

Illinois—Psychopathic Hospital, Wood and Polk Streets, Chicago.

President, Katherine C. Staples; vice-president, Kathryn Bartlett; recording secretary, Grace Herbst; corresponding secretary, Lucille H. Guertin; treasurer, Winifred Brainerd.

Chairman of standing committees: Program, Mrs. Anna Tomkins; social, Mrs. Robert Kerr; membership, Marian Clark; auditing, Helen McNeal.

Manitoba—Psychopathic Hospital, Winnipeg.

President, Miss E. A. Griffin; vice-president, Mrs. J. P. Oliver; secretary, Mrs. B. Stewart-Hay; treasurer, Miss Josephine Hickie.

Board of management: Miss J. L. Billington, Mrs. A. Wood, Mr. W. J. Warters, Miss E. J. Buchanan, Miss J. H. Stewart, Miss M. W. Telford.

Maryland—Sheppard and Enoch Pratt Hospital, Towson.

President, Mrs. Marshall Price; vice-president, Miss Drevenstedt; secretary, Miss Mary Bean; treasurer, Miss Mary Rice.

Massachusetts—433 Boylston Street, Boston.

President, Dr. E. G. Brackett; vice-president, Miss Harriet A. Robeson; secretary, Mrs. S. Parker Bremer; treasurer, Mr. Herbert Nash Jr.

Board of managers: Dr. John D. Adams, Dr. Walter E. Fernald, Miss Marjorie B. Greene, Dr. Herbert J. Hall, Dr. John B. Hawes II, Miss Ruth Wigglesworth, Mr. Arthur L. Williston.

Director, Miss Harriet A. Robeson.

Chairman of standing committees: finance, Mr. Herbert Nash Jr.; bureau, Mrs. Horace Morrison; publicity, Dr. John D. Adams.

Michigan—Newberry House, 1363 East Jefferson Avenue, Detroit.

President, Mrs. William Burtenshaw; vice-president, Mrs. Pearl Potvin; secretary, Miss Camilla B. Ball; treasurer, Miss Lizette Hubel.

Missouri—3510 Washington Avenue, St. Louis.

Board of trustees: president, Dr. Malvern B. Clopton; vice-president, Mrs. Elias Michael; treasurer, Mr. John F. Shepley; Mrs. Lewis Gustafson, Mr. Robert L. Lund, Dr. Hanau W. Loeb, Miss Augusta K. Mathiew, Mrs. Sidney I. Schwab, Mrs. E. F. Wuerpel, Dr. Cleve-

land H. Shutt, Mr. George C. Hitchcock; secretary to board, Miss Loretta K. O'Gorman.

Chairman of standing committees: workshops, Mrs. Elias Michael; vocational training, Mr. Lewis Gustafson; industrial placement, Mrs. Sidney I. Schwab; publicity and legislation, Mr. George C. Hitchcock; medical cooperation, Dr. Cleveland H. Shutt; instruction, Mr. E. H. Wuerpel.

New York—203 East 21st Street, New York City.

Board of directors: president, Dr. Alexander Lambert; vice-president, Dr. William L. Russell; vice-president, Mr. James G. Blaine Jr.; secretary, Mrs. Cornelius J. Sullivan; treasurer, Mr. John T. Pratt.

Executive committee: chairman, Mr. Henry R. Hays; vice-chairman, Mr. J. Newton Gunn; Dr. William L. Russell, Dr. George O'Hanlon, Mrs. Cornelius J. Sullivan, Mrs. Howard Mansfield; secretary, Miss Meta N. Rupp; workshop director, Mr. George A. Rutherford; office secretary, Miss Ruth H. Emory.

Ontario—145 Yonge Street, Toronto.

Hon. president, His Honor the Lieut. Gov. of Ontario; Hon. vice-president, Sir Robert Falconer.

President, Miss E. D. Stupart; vice-president, Mrs. H. G. T. Haultain; treasurer, Miss K. O'Grady; secretary, Miss A. Marks.

Committee: Miss M. Langley, Mrs. M. L. Graham, Miss M. Orr, Miss M. Bickell, Miss L. H. DeLaporte.

Finance committee: convenor, Miss O'Grady; Miss C. MacDonald, Miss G. Degas; Miss E. Eastmure.

Information committee: convenor, Miss L. H. DeLaporte; Miss M. Macpherson, Miss C. Cavell, Miss I. Gorrie.

Publicity committee: convenor, Dr. George M. Langley; Miss F. Wright, Miss Orr, Mrs. E. MacMillan, Miss Leask.

Special committee: convenor, Dr. George E. Wilson; Dr. Cunningham, Dr. Goldwin Howland, Dr. J. H. Elliot, Dr. Grant Fleming, Dr. George Smith.

Branches of society: Hamilton, London, Kingston.

Pennsylvania—2200 Delancey Place, Philadelphia.

Temporary chairman, Miss Ida F. Sands; temporary secretary, Miss Marian Monroe.

Washington, D. C.—St. Elizabeth's Hospital, Nichols Avenue and Anacostia Street, Washington.

President, Miss Elsey R. Taft; vice-president, Mrs. Frank Smith; secretary, Miss Clara Bell Davis; treasurer, Miss Marian Morris.

Directors: Miss Emily Haines, Mrs. Axel Sumner, Miss Alberta Montgomery.

Wisconsin—Columbia Hospital, Milwaukee.

Executive officers: honorary president, Dr. F. J. Gaenslen; president, Miss Hilda B. Goodman; vice-president, Miss Mabel Frame; secretary, Miss Irene Grant; corresponding secretary, Miss Ruth Wilson; treasurer, Miss Elsa Dudenhofer.

Chairman of committees: publicity and legislative, Mrs. C. H. Davis; training and requirements for teaching, O. T., Miss C. Partridge; extension, Dr. Pleyte; medical and hospital advisory, Dr. O. Lotz; magazines, Miss Heimbach; secretary, Miss Alice Ogden; library, Miss D. Brown; crafts and occupations, Miss Julia Hooker.

Illinois

During the past year the Illinois Society of Occupational Therapists has felt sharply the growing pains of youth. We have perhaps actually increased our stature little, but we have made one tremendous stride upward toward that goal in the development of occupational therapy for which we are striving.

Last year as part of our program we visited most of the Chicago hospitals having occupational departments, and it is needless to state the value and interest of such contacts to all members of the society. But though we gained much within our own group of active workers, we began to feel most strongly the necessity for enlarging our activities to include a closer cooperation with the other departments of the hospital and to bring the value of occupational therapy more forcibly to the attention of the medical profession and to the public at large. This need

developed into the formation of a publicity committee which promises to achieve much towards these ends.

Occupational therapy has been too often an "extra" department in the hospital—a type of treatment not considered by the physician as a valuable factor and not connected in any practical working manner with the other hospital units. We hope through our recent affiliation as an institutional member of the American Hospital Association to help accent the need for occupational departments to be more closely interwoven with the rest of the hospital scheme; to be not an interesting departure but a small essential part of the smoothly running hospital plan.

Our program for the coming year follows along the same lines of better coordination with affiliated fields in bringing to us as speakers:

Dr. Goodkind of Michael Reese Hospital.
Miss Boyd of the University of Chicago.
Dr. Mock of St. Luke's Hospital.
Mrs. Eleanor C. Slagle of the New York Society of Occupational Therapy.
Mr. Owens of the Municipal Tuberculosis Sanatorium.
Miss Weil of the Spaulding School for Crippled Children.
Mr. Worst of the Chicago Public School System Manual Training Department.
Miss Amelia Sears of the United Charities.

Through the suggestion of Dr. Mock we have availed ourselves of the privileges of the Hospital Library and Service Bureau, finding it both convenient and pleasant to hold all our business meetings there, and are now looking forward to some new plans for publicity which we hope to develop through the medium of this organization.

—Secretary.

Manitoba

Manitoba commenced work in the Psychopathic Hospital in January, 1920; two aides began work at Brandon Mental Hospital in May, 1921, and the two military aides were retained at Selkirk Mental Hospital for civilian work. Occupational work was started by one aide at the new School for the Feeble-Minded at Portage la Prairie on April 1. In both Brandon and Selkirk the building plans include better accommodations for occupational work.

The Manitoba Society was organized in June, 1920, under the name of the Canadian Society of Occupational Therapy of Manitoba for the purposes of mutual improvement and exchange of ideas and of informing the public of the need of this work. At the beginning the society was composed principally of aides then in the employ of the Soldiers' Civil Re-establishment, and the Civilian Mental Hospitals of the Province, and later, as the associate membership extended, it comprised interested people of varying occupations, such as teachers, social service workers and others. The experience of many of the aides had impressed on them the need of a central city workshop for handicapped persons, both military and civilian, and to this end the efforts of the Society have been directed.

At the annual meeting in June, 1921, on account of invitations being sent to several hundred representative citizens, a much more widespread knowledge of and interest in occupational therapy was aroused.

The Society took a step in February, 1922, towards its objective of a workshop for handicapped by opening a room and equipping it for work and sale of products.

Maryland

The Maryland Society holds its meeting in the Medical and Chirurgical Building in Baltimore. It has been very fortunate in securing interesting speakers, such as the head of the Maryland Mental Hygiene Society, some special craft teachers from the Maryland Institute, representatives of the Public Health Hospital and heads of social organizations.

Massachusetts

The Massachusetts Association for Occupational Therapy held the first meeting in its proposed publicity campaign at the home of Mrs. L. Carteret Fenno, Boston, on March 14.

Dr. John D. Adams, vice president of the association and one of the founders of the war courses at the Boston School of Occupational Therapy, spoke on "Occupational Therapy, What It Is and What It Does." Dr. Kendall Emerson of Worcester, just returned from an inspection tour of European Hospitals for the American Red Cross, had for his subject "Occupational Therapy in European Hospitals." Dr. Frederick J. Cotton, realizing that occupational therapy is no longer confined to the treatment of the ex-soldier, spoke most interestingly on "The Value of Occupational Therapy to the Disabled in Industry."

There were more than two hundred persons present and the interest created by the meeting is clearly demonstrated by many new memberships to the association and by visits to the Bureau of Occupational Therapy.

The Bureau, established in 1920, has been taken over as an activity of the Massachusetts association. It has a four-fold purpose:

a. To be a center where information and designs relative to handicrafts may be had and where exchange of ideas will be welcomed.

b. To buy materials and equipment for departments and individuals making it possible, in spite of small commission charged, to deliver at less than retail prices.

c. To sell the finished product submitted by hospitals, institutions and individuals.

d. To promote service and understanding between the worker and the purchasing public.

The registration department is open for the registration of all aides meeting the standards of training and experience required by the Massachusetts Association. The Association is the only one at present requiring definite standards for aides; because of this it is believed that registered Massachusetts aides will have wide recognition.

Close touch will be kept with available positions and help will be given in placing registered aides.

Meetings are to be held in cities and towns throughout the state with the purpose of establishing sub-committees of publicity representing active centers of interest. It is hoped through these centers to have in organizing occupational therapy departments in the hospitals and institutions in their communities.

A survey will be made of all existing occupational therapy work in Massachusetts for:

a. Coordination of all allied interests.

b. The study and guidance of the future growth of occupational therapy.

c. The establishing of state standards for salaries of aides and occupational therapy records and charts.

Michigan

The annual meeting of the Michigan Association of Occupational Therapy was held on March 14 at the residence of one of the members in Detroit. The particular feature of the meeting was a lecture by Miss Kalb on dynamic rhythmic. She discussed the principles in abstract design for the crafts of occupational therapy.

The Detroit Chapter of the American Red Cross made a two-year demonstration with a shop for the handicapped of the city at Newberry House. During the time the Red Cross shop was in operation, approximately 250 patients worked in the shop. The patients were either blind or crippled, and many of them were quite old. Two busses were maintained for the transportation of the helpless cases. The patients received twenty-five cents an hour in remuneration for their effort in the shop.

During these two years the following activities were developed: weaving, basketry, sewing, Braille, typewriting, carpentry, brush-making, rug-making, chair-caneing, both machine and hand, chair-repairing, upholstering, toymaking, refinishing furniture and metal work.

The Red Cross closed its demonstration last June, and gave the patients a farewell party at Belle Isle.

In January the Junior League of Detroit took up the work with the handicapped, and a program is being developed for further work.

Missouri

The Missouri Association for Occupational Therapy was formed and incorporated June, 1919, for the purpose of introducing and extending the use of occupation as a curative measure, and for the organization and management of various activities for the promotion of the economic and individual betterment

of the physically and mentally handicapped. In order to carry out the purposes of the Association the following activities were deemed necessary:

1. The training of teachers of occupational therapy.
2. The establishment and direction of curative workshops and bedside occupations in hospitals and dispensaries.
3. The organization and maintenance of an agency, or cooperation with existing agencies, for the vocational retraining of the physically and mentally handicapped.
4. The maintenance of, or cooperation with, a bureau for the industrial placement of the handicapped.

It is the policy of the association to appoint standing committees from among its members which have the direction of these various activities, the chairman of each committee being a trustee of the association, reporting at each regular meeting to the board the action of the the committees and making such recommendations as require action by the board.

The board of trustees of the Missouri Association for Occupational Therapy feels confident that the work it has undertaken is capable of arousing an enthusiastic interest in all those who can be brought to understand its purposes and the beneficial results to be accomplished. The Association desires primarily to stimulate an interest in

A FORUM FOR STATE SOCIETIES

There are eight state occupational therapy societies in the United States, two provincial ones in Canada, and one in the district of Columbia. The state associations have many interests and problems in common, which may be best served by an interchange of ideas, experiences and experiments. There will be a column in THE MODERN HOSPITAL each month hereafter devoted to the interests of the state societies entitled "The Roll Call."

What would you like to know about forming a state society, and what would you like to know of the activities of other states? Write to the editors of the occupational therapy department and your suggestions and the answer to your questions will be printed in "The Roll Call."

This number will introduce the societies and will be a "Who's Who" of officers and committees. A brief account of the work of each society is being given.

its activities and to depend for its financial support on those who are genuinely interested and who are willing to make an effort to see the objects of the Association successfully accomplished.

New York

The New York Society is concentrating its efforts on the curative workshop and an eight-month training course for aides to begin in the fall. It will continue its registry of occupational therapists and the advisory service which it has been doing in the past.

A brief summary of work up to March 1, 1922 is given by the secretary: "We have registered 187 occupation therapists and placed eighty-six. These workers are trained occupational aides who give occupations to handicapped and ill people as a curative agent.

"We have had 129 requests from hospitals and sanatoriums for teachers and have filled eighty-six of these positions.

"Last summer, the Society directed a six weeks' graduate course in occupation therapy which was attended by twenty teachers, sixteen of whom are filling positions.

"During the past year, our visiting teachers instructed seventy-five home-bound cripples in occupation therapy.

"The Society has made recommendations for and organized twenty new departments of occupation therapy.

"We have recently completed a survey of the home-bound invalids in the East Harlem Health Center previous to starting work in that district.

"We have started a convalescent curative workshop at 203 East 21st Street for the discharged hospital patients unable to take up his or her former trade or sufficiently recovered to be retrained in a new one. The shop is conducted entirely on curative lines, and we demonstrate the value of occupation therapy as the link between the hospital and industrial training. Before assigning a patient to any definite work we require a record of the case and suggestions from the doctor who has the case under supervision as to the type of work best suited to the patient's needs. The workshop is under the supervision of the medical members of the committee and reports of the patients' progress will be rendered from time to time to the doctors referring cases.

Ontario

The Ontario Society of Occupational Therapy was formed in 1920. During the two years it has been in existence it has grown steadily in size and strength. It includes branches in Hamilton, London, Ottawa and Kingston.

The meetings consist of a business discussion, a lecture by some prominent person, and a social chat over a cup of coffee. Several trips have been taken to institutions of interest, including the Royal Ontario Museum and the Provincial Asylum.

Last year the season was closed by a reception at Government House given by His Honor the Lieutenant Governor of Ontario for members of the Society and their friends. Although the weather was exceptionally severe there was an attendance of some 500 enthusiastic persons.

The activities this season have been marked by a course of lectures and post-graduate work for those new in a hospital.

The chief work undertaken this year has been the development of a community workshop to take the place among civilians which the vet craft holds for disabled soldiers. Our hopes are to be realized and in a short time the workshop will be an actual fact. Our most prominent

doctors and business men are completing the details of its preparation. Then our Society will have a home of its own.—*Secretary.*

Pennsylvania

On Thursday, April 27, a number of the occupational therapists of Philadelphia were called together to discuss plans for an association to discuss various problems that are developing in the work.

Miss Ida F. Sands, director of the occupational therapy department of the Philadelphia General Hospital, was appointed temporary chairman and Miss Marian Monroe of the Visiting Nurse Society, temporary secretary. After some discussion it was decided that this association of aides should meet on the fourth Thursday of each month at the Philadelphia School of Occupational Therapy. A nominating committee was appointed consisting of three members, and Miss Fulton, dean of the Philadelphia School of Occupational Therapy, was appointed chairman of the program committee.

Washington

On March 7 was held one of the most interesting meetings of this organization for the year. It was held at Walter Reed Hospital and was largely attended. The program was opened by Major Sherwood, director of Occupational Therapy at Walter Reed, and he gave a sketch of the history of the work there. There were two papers by Captain Pratt of Kankakee, Ill., and Dr. Robert Turnstall Taylor of Baltimore. The other able address was given by Dr. William A. White of St. Elizabeth's Hospital, in which he brought out many practical points in the application of occupational therapy to psychiatric patients. After the program the audience was invited to a social hour in the workrooms where a special exhibit of the crafts was shown and refreshments served.

Wisconsin

The Wisconsin Association is making an effort to extend occupational therapy throughout the state and to keep isolated workers in touch with one another. At first a news letter was sent to the various workers, but it was soon realized that Wisconsin needed a real journal devoted to local and state activities. The chief activities of the Association during the year have been the publishing of the *Journal*, a large meeting open to the public and a lecture course for the members.

On January 20 and 21, members of the Illinois Society were the guests of the Wisconsin Association. The Junior League of Milwaukee entertained the guests at luncheon. Mrs. Walter Bartlett gave the welcome, followed by a response from Miss Katherine Staples. Mrs. C. H. Davis spoke on the National Association and the relation of state societies to it.

A visit to the training school at Milwaukee Downer College followed the luncheon, after which the guests were entertained at tea at the nurses' home of Columbia Hospital. Miss Mary A. McMillan, superintendent of nurses, Presbyterian Hospital, Chicago, and Miss Titus of Columbia Hospital spoke on occupational therapy in connection with nursing problems.

An open meeting was held in the evening at Milwaukee Downer College at which Dr. John Coulter and Dr. Ethan Allen Gray of Chicago spoke. Miss Goodman staged a curative workshop clinic of paralytic children which brought to the public, as nothing else could, the great work of functional restoration for the little ones.

The *Journal* will be sent upon request to any state association.

DISPENSARIES AND OUT-PATIENT DEPARTMENTS

Conducted by MICHAEL M. DAVIS, JR., Ph.D., Executive Secretary Committee on Dispensary Development, United Hospital Fund of New York, and Chief, Service Bureau on Dispensaries and Community Relations of Hospitals, American Hospital Association, 15 W. 43rd Street, New York
and by ALEC N. THOMSON, M.D., Director of Medical Activities, American Social Hygiene Association, 370 Seventh Avenue, New York

HUMANIZED SERVICE COUNTS*

By B. C. ROLOFF, SECRETARY, ILLINOIS SOCIAL HYGIENE LEAGUE, CHICAGO

LET'S humanize our clinics. I'll admit doctors alone cannot do it. Their minds are too scientific. Don't think I hesitate to tell you medical men these things; there are sixteen good men and true on our staff and they hear it from me regularly. But a clever medico-social worker can mean the difference between success and failure in a clinic. Tact, kindness and diplomacy are essential. Our records are not as complete as they should be. We are rushed as other clinics are; our space is at a premium; our staff is limited; but we find that we can get lots of facts—not in a regular interview, but just in between. Hardly an old patient comes in who is not inquired about kindly every time he comes—his family, his work, his ailment. Oftentimes I slip out of the treatment room and jot down a bit of helpful information secured in that way.

We have simplified our follow-up in this way: Every patient is checked through a cash register. That machine is part of our bookkeeping system. I have seen doctors throw their hands up in horror at that cash register.

024 MAY 22

Figure at top is
your number
for this Clinic
only.

*B-.00

Leave this slip at
downstairs
desk on way out.
(over)

OUR PATIENTS

are entitled to the best possible scientific care and friendly treatment. If dissatisfied, tell the Superintendent. In return, please follow our Physician's instructions exactly. Ask the Doctor when you are to come back.

ILLINOIS SOCIAL
HYGIENE
LEAGUE

The patient enters on his first visit. After the interview he is checked through the cash register whether he pays or not. The little slip that comes out is handed to him and he is told to return it to the admittance clerk before he leaves the clinic. After treatment is given, a new patient is likely to pass by the clerk, dropping his cash register slip, and start for the door. Right then and there begins our follow-up work.

"Wait a minute" calls the clerk, "What day did the doctor say you were to return?"

"Why, I don't know, I never asked him" is the reply almost invariably, even though the doctor actually did tell him when to return.

"Go back and find out," the clerk urges.

The patient seldom or never forgets after that to ask the doctor when he is to return. He cannot get out of the clinic without reporting the date of his next visit. This helps him to remember the time definitely. The clerk enters the date upon the little slip and puts it in the cash register drawer. The next day every one of those dates are entered upon the little square in the follow-up record with a single pencil line. Suppose that the same patient returns a week later, but not upon the right day. With the follow-up record before him the clerk asks:

"You were due to return here Tuesday. This is Wednesday. Why are you a day late?"

"Well, I had a date Tuesday."

Right then and there he gets a friendly admonition on the great importance of regularity in attendance and how much more quickly we can help if orders are obeyed. And that patient and every patient gets the same persistent pre-follow-up treatment, if I may coin a new phrase.

At the end of the month all the cases that were due and did not come in that month are separated and gone over carefully. Those cases which are active and infectious are separated from the ones which have been discharged, given vacations, or who really should not be followed up. Letter No. 1 is written. It is on plain paper and is sent in a plain envelope. My own name and address are all that appear upon the notice. A curious landlady could steam the flap of such a letter and get nothing for her nosy curiosity. This protects the patient. The second letter is more urgent. The third is upon our letter head and frankly, but in a kindly way, threatens reporting the case to the health department.

Here are some interesting data on how our system works: In 1919 we had no social work.

December, 1919 out of 430 cases, 146 failed to return.

It has even been made the subject of complaint at a medical meeting. But it serves a purpose far beyond the taking in of a little money. It is a part of our follow-up system.

*Extracts from an address read before the Chicago Health Conference held under the auspices of the U. S. Public Health Service.

January, 1920 social worker engaged.

January, 1920, 549 patients treated, 154 failed to return.

February, 1920, 485 patients treated, 80 failed to return.

March, 1920, 595 patients treated, 48 failed to return.

April, 1920, 582 patients treated, 56 failed to return.

January, 1922, 600 patients treated, 8 failed to return.

February, 1920, 620 patients treated, 4 failed to return.

The first letter brings back 50 per cent of the cases absent without leave, the second 25 per cent more and the third 20 per cent more. About five per cent of those absent without leave do not come back.

The final follow-up is, of course, a health department job. If we know where a patient works, if he works, and it is easy enough to appeal to the employer, but that is seldom necessary.

In conclusion, let me say, human service pulls heart-strings. Any good clinic having good medical service, fortified by the right sort of social service, may secure the cooperation of the patient through the exercise of a bit of common sense and human kindness and make a success of its task—that of restoring to industrial and familial efficiency the unfortunate victims that come to it. Every clinic is a human repair shop. Our task is not complete when we merely sterilize a patient so as to render him non-infectious. We must do a complete job or the expensive medication and service originally given are almost wasted. We aim to keep our syphilitic patients in sight for five years. Our clinic is now treating case No. 8000 but cases Nos. 4, 36, 175, 200, 301, and many more, scores of them, are still coming either for treatment or periodical examinations.

HOLD REGIONAL DEMONSTRATION CLINICS IN NEW JERSEY

The Bureau of Venereal Disease Control of the New Jersey State Department of Health has just concluded a series of regional demonstration clinics in cities that maintain venereal disease clinics. These are Long Branch, Trenton, Salem, Jersey City, Atlantic City, Plainfield, Camden, Elizabeth and New Brunswick. The series began in Newark in May, 1921, and ended in Newark with the Public Health Institute in April, 1922. All venereal disease was considered, but syphilis was the chief subject. It is planned to emphasize the diagnosis, prognosis and treatment of gonorrhea in a repetition of the series of demonstration clinics next winter.

New Jersey has three thousand doctors. One-sixth of this number took the time and trouble to attend the meetings. Aside from proving the value to physicians of the demonstration of diagnostic and therapeutic technique, New Jersey proved to the hospitals and dispensaries and to health officers that *real service* by the local medical center to the physicians of the vicinity is not only utilized but enthusiastically welcomed by them.

In reporting upon the success of the year's work, New Jersey says:

"At all of the demonstrations the interest, attendance, and after effects, shown by personal letters, requests for consultation, history forms, etc., and increase in reports and laboratory examinations, indicated clearly the value of such meetings and convinced the bureau that the effort had been worth while.

"If there is not a considerable body of practicing physicians of a broad public health viewpoint, interested in the most effective methods for the treatment of syphilis, in sympathy with the program of the state ve-

neral disease control campaign and convinced of the necessity of general medical examination of the collaterals of known cases of syphilis, much of the work of the state control bureau must be wasted.

"Of what avail is it to educate the public to seek examination if exposed to the disease and to seek treatment if the disease is found infective, if the practicing physicians of the state do not appreciate the value of the dark-field microscopic examination; do not interpret properly the Wassermann reaction; treat the diseases with substitute arsenical compounds of doubtful therapeutic value, or by mercury-by-mouth only; or pronounce the disease cured on insufficient evidence or before sufficient treatment has been given.

"A questionnaire was submitted by the bureau to the physicians of the state. This was answered by more than one-third of the physicians. A study of the answers indicates that very many who do not refer their cases of syphilis to syphilologists do give inadequate treatment and are not equipped to diagnose and prognose the disease properly. If any considerable percentage of these physicians have been induced to improve their methods of diagnosis, treatment and prognosis, the work has been of inestimable value.

"The increase in the reports from localities in which the demonstrations have been held, the increase in the use made of the state, county, and city hygienic laboratories, and the letters to the bureau from physicians, in reference to individual cases, are all indications of the value of the demonstration clinics."

The hospital, the dispensary, the health official, the medical society and the individual doctor can, must, and eventually will get together upon similar cooperative plans, which are bound to result in mutual benefit and increased better service to the community.

SEEK MODEL PEDIATRIC CLINIC

The Section on Pediatrics of the Associated Out-Patient Clinics, which in 1914 adopted standards for Class A, B and C clinics, was reorganized on May 10, 1922 with the following officers: chairman, Roger H. Dennett, M.D.; vice-chairman, William P. St. Lawrence, M.D.; executive secretary, Gertrude E. Sturges, M.D.; executive committee, Murray Bass, M.D., Stafford McLean, M.D., Marshall C. Pease Jr., M.D., Mark S. Reuben, M.D., Frank Howard Richardson, M.D., Louis C. Schroeder, M.D., Charles Hendee Smith, M.D. and the officers.

It was the opinion of the section that the grading of clinics by an approved standard would serve as a strong lever in the improvement of clinic service. The executive committee of the section was consequently instructed to proceed with the revision of the former standards and with the grading of the pediatric clinics represented in the association.

The desirability of a model pediatric clinic as a demonstration was also discussed. Since it was thought that the operation of such a clinic would be an excellent method of stimulating the improvement of pediatric clinics, it was decided that the section proposes the plan to the executive committee of the Associated Out-Patient Clinics and request funds to assist in such an enterprise. It was agreed that the selection of a place for the demonstration should be on a competitive basis, that the competition should be open to all member institutions of the Associated Out-Patient Clinics, and that the principles governing the selection of a demonstration site should be agreed upon in advance and made public.



MEETINGS, CONVENTIONS AND CONFERENCES

CATHOLIC HOSPITAL WORKERS HOLD ENTHUSIASTIC CONVENTION AT NATION'S CAPITAL

THE seventh annual convention of the Catholic Hospital Association of the United States and Canada witnessed the gathering of an enthusiastic group of Catholic hospital workers at the Catholic University, Washington, D. C., on June 20-23, 1922.

Following mass, of which the celebrant was the Most Reverend Sebastian G. Messmer, D.D., D.C.L., archbishop of Milwaukee, and a sermon by the Most Reverend Michael J. Curley, D.D., archbishop of Baltimore, at the Franciscan Church, the delegates adjourned to the auditorium of the university gymnasium where they listened to a brief, though happily phrased, address of welcome by the Right Reverend Thomas J. Shahan, S.T.D., J.U.L., LL.D., rector of the Catholic University of America.

Owing to delay in starting Tuesday afternoon's session, the Reverend Charles B. Moulinier, S.J. of Marquette University, Milwaukee, read merely the conclusion of his presidential address. He emphasized the thought that the Catholic Hospital Association is not only a scientific but also a religious and ethical body, devoted to organized service for the sick brethren of Christ, and that individual hospitals, to be successful, must be thoroughly organized and guided by trained personnel. While many of the activities of the hospital are easily understood and performed, there is much still to be learned, owing to the rapid progress of medicine. He, therefore, urged the delegates to take full advantage of the convention to gain added knowledge and inspiration through observing the demonstrations, studying the equipment on display at the exhibit and conferring with other delegates.

A symposium on hospital organization followed Father Moulinier's address. This consisted of a group of four brief papers on the scientific, economic and administrative organization of the hospital as a whole. The organization of the hospital as a whole was covered by Sister Amadens of St. John's Hospital, Cleveland, Ohio. Sister Amadens commented briefly on the components of a well organized Catholic hospital, i.e., the executive board, the advisory board, the sisters, the nurses, the administrative personnel and the hospital's obligations. Referring to the medical staff, she made a plea for the rigid exclusion of commercialism and the appointment of men of high ideals. To this end the members of the medical executive board must be men who can not only judge of the scientific ability of the members of the staff but who also have the ability to detect violations of moral standards. She also urged the appointment in all Catholic

hospitals of an advisory board, composed of seven high class, capable business men who by the force of their personality, their acumen and their business contacts are well qualified to act in the capacity of advisers with reference to the business affairs of the institution.

Creating a Good First Impression

Sister Cephas, Mercy Hospital, Cedar Rapids, Iowa, who read the paper on "Scientific Organization of the Hospital," emphasized the importance of seeing that incoming patients are given immediate attention and that the feeling of antipathy toward the hospital which often exists is overcome by a spirit of kindness and cheerfulness. She deplored the bad impression made by many hospitals, the entrances to which are cheerless and barren. Necessary business arrangements, she observed, should be made in a pleasant, tactful manner, thereby avoiding the danger of having the hospital regarded as a mercenary institution. She urged the keeping of careful records of the scientific work of the hospital and cited examples of financial loss due to the lack of records.

Sister M. Innocent, Mercy Hospital, Pittsburgh, Pa., spoke on "The Economic Organization of the Hospital." She narrowed her subject down to a discussion of receipts and expenditures, purchase, personnel and equipment. Executives, she said, should see to it that all sources of revenue yield their full quota. Patients should pay one week in advance and when admitted should be informed as to extra charges in order to avoid misunderstanding and ill-will. She urged the adoption of the budget system as a sane and safe method of checking up expenses and advised the inclusion of an emergency item equal to ten per cent of the annual expenditure. As to purchasing she advised the Sisters to study the market constantly and intelligently and so far as possible to buy in large quantities. They should also take advantage of all cash discounts for prompt payment of bills. A well organized department of supplies, with a proper record system is imperative.

Speaking on "The Administrative Organization of the Hospital," Sister M. Regina, Mercy Hospital, Wilkes-Barre, Pa., said no hospital can afford to omit the education of the public as part of its function. The mistake of having professionally trained persons doing non-professional work should be guarded against. The governing board of the hospital should be well acquainted with the community it serves and should study constantly how best to serve it.

Sister Regina felt strongly that the medical staff should not be directly represented on the board. The hospital executive should be firm in putting policies through but she should temper her firmness with kindness and justice. She felt that the chief executive should have frequent meetings with her heads of departments. Superintendents of small hospitals, she felt, should meet patients on admission and every effort should be made to avoid treating them mechanically. Criticisms should be gratefully received but never taken at their face value. They should be investigated and, if found justified, acted upon.

The concluding paper of the afternoon dealt with the factors in the proper care of the tuberculous and was presented by Dr. Charles O. Giese, Glockner Sanatorium, Colorado Springs, Colo. Dr. Giese observed that while scientific men have thus far not been able to eliminate the source of danger in tuberculosis, nevertheless rapid strides have been made in providing facilities for the care and treatment of the tuberculous. He cited figures showing that whereas in 1905 there were but 8,400 beds for the tuberculous in the United States, in 1920 there were 41,544 beds. Yet with all these facilities not more than one in five or six can secure institutional care in any one year. The general outlook is encouraging and many are restored to lives of usefulness.

Tuesday evening there was a meeting of the officers and directors of the sectional conferences at which the Rev. George A. Metzger of Brooklyn presided.

The Thursday morning session of the conference was devoted to symposium on the fundamentals of medical activities and the functions of the general hospital.

Dr. B. F. McGrath, director of the surgical laboratories of Marquette University School of Medicine, Milwaukee, opened the discussion with a few explanatory remarks relating to a chart dealing with the functions of the general hospital, which was displayed on the platform of the convention hall. This chart brought out the central position of the patient in the scheme of hospital functions and showed graphically the relationships which the various factors of the hospital bore to him.

Following his remarks a series of fourteen ten-minute papers were read, explaining the various phases of hospital organization and administration.

The first address, delivered by the Rev. C. B. Moulinier, S.J., Marquette University, Milwaukee, dealt with the fundamentals of medical activities. Father Moulinier elucidated the chart, laying particular stress upon the thought that the hospital is in reality the laboratory where practical demonstrations of the first article of the Apostle's Creed are constantly being given. This, he says, gives the inspiration that makes science religious.

Must Take Part in Public Health Work

Speaking on extra-hospital activities, the Rev. John M. Cooper, D.D., of the Catholic University of America, contended that while the division of labor tends to make for isolation in the hospital field as elsewhere, hospitals cannot, with impunity, hold themselves in isolation, but must interest themselves in the general public health activities of the community they serve. They must interest themselves in the community's water, food and pure milk supply, in the problems of under-nourishment and industrial legislation, in housing, recreation and child care. To this end he suggested, first, that every hospital subscribe to two or three of the leading periodicals dealing with general public health and welfare movements; second, that the interest of the staff of the hospital be awakened to these movements; and finally, that

each hospital have a representative actively at work in each of the principal social welfare organizations of the community.

In dealing with the subject of administration, Sister M. Beniti of Holy Cross Hospital, Salt Lake City, declared that the Sister Superior must know every detail of the hospital's activity and must bear the united burden of the entire hospital staff. Because of her position she should be consulted and considered by her aides, and no change in method should be made without her knowledge and sanction. In order to establish efficient hospital administration, Sister Beniti advocated the establishment of courses of study such as are now offered in industry for increasing personal efficiency. She felt that the administrative force of the hospital must cooperate closely with the medical and nursing staff and act not only as its directing, but also its encouraging and sustaining force.

Records as Instruments of Education

In the absence of Dr. G. P. Muller of the Misericordia Hospital, Philadelphia, Dr. F. D. Jennings of St. Catherine's Hospital, Brooklyn, spoke briefly on the administrative side of physiotherapy, as well as on the subject of staff meetings, records and museum. He made a plea for the wider introduction of physiotherapy into general hospitals in order to enable many patients, particularly surgical cases, to be returned to industry more rapidly. He emphasized the importance of adequate hospital records, asserting that the absence of records is analogous to owning a piece of land without possessing a deed. Not only must records be made, but they must be efficiently filed and used. The important thing, after all, asserted Dr. Jennings, is the man imbued with scientific zeal and honesty behind the record. Records should be exact, terse, yet complete, and should contain a statement of end results. Records should not be inanimate sheets of paper, but active, pulsating instruments of education. The monthly staff meetings should not be primarily clinical; they should not be an attempt to duplicate county medical society meetings, but should be used to review the work of the staff. The staff meeting, Dr. Jennings held, is the staff mirror and is non-magnifying.

The triple subject of research, education and the hospital library was discussed by Dr. John T. Bottomley of Carney Hospital, Boston. Dr. Bottomley held that experimental and laboratory research was absolutely fundamental to medical progress; that research demanded minds, men and money and that the type of mind which could engage successfully in research work was very uncommon and was far from meeting the demand. Dr. Bottomley made a plea for the establishment of laboratory centers which would serve the diagnostic needs of the physicians of the community. He deplored the tendency to educate nurses far beyond actual needs and asserted that a far greater proportion of nurses should be trained to give service to the large group of people of moderate means. While he stood for the adequate education of all nurses, he was opposed to the overeducation of the large proportion of nurses. Special educational opportunities should, of course, be offered those who are to assume positions of unusual responsibility, such as heads of nurses' training schools. He held that every hospital, however small, should have a working library.

The subject of Dr. Raymond P. Sullivan's paper was "The Patient's Entrance." The patient, said Dr. Sullivan, will receive a favorable first impression of the institution if its admitting department has a dignified, orderly



Catholic hospital executives of the United States and Canada in attendance at recent annual session.

setting, is simple in arrangement and renders efficient service. A friendly atmosphere should prevail at the admitting desk. Unnecessary delays, should be avoided; attendants should be kind but firm, always remembering that the primary purpose of the institution is the care of the sick, that the patient is at the hospital by necessity and is entitled to efficient service.

The hospital as a diagnostic and therapeutic center was dealt with jointly by Dr. Charles Nielson, professor of medicine of St. Louis School of Medicine, and Dr. H. W. Loeb, dean of the same institution. The paper made a plea for the greater use of the hospital as a diagnostic center for the physicians of the community, especially in view of the fact that nowadays few physicians can afford to equip their private hospitals with the expensive appliances modern practice of medicine requires.

Speaking on the subject of psychiatry and neurology, Dr. A. C. Gillis, professor of neurology and clinical psychiatry of the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, urged general hospitals to take a greater interest in the care and treatment of the thousands of psychoneurotic cases that might legitimately be admitted as patients.

Mrs. Agnes O'Dey, chief dietitian of Johns Hopkins Hospital, Baltimore, spoke briefly on dietetics, and urged hospitals not to leave the difficult problem of dietetics to chef or steward, however faithful he might be. All the food served in the hospital, and not merely that intended for private patients, should come under the surveillance of the dietitian.

Dr. C. A. Gordon of St. Catherine's Hospital, Brooklyn, dealt with the subject of post mortem examinations, and urged hospitals to make a determined effort to increase the number of their autopsies. In order that they may be more universal, many existing laws will have to be changed, others enacted, the opposition of undertakers broken down and prejudices of relatives overcome.

The early part of Friday morning's session was devoted to the reports of the chairmen of the various conferences held on Wednesday. The conference of Mothers Provincial and Superior went on record as favoring the eight-hour day for nurses and urged its early and general adoption. It also advocated the establishment of a school for the training of Sisters as instructors of nurses.

The conference of operating room nurses and anesthesiologists advocated the use of Sister anesthesiologists in the Catholic hospitals. The conference on laboratory directors and technicians favored charging a flat fee for the routine laboratory work of the hospital and additional fees for special examinations and tests. It urged hospitals to systematize their laboratory work to a greater degree than at present. It did not regard the training of Sisters as pathologists as a good plan. X-ray films, in its judgment, were better than plates.

The conference of the supervisors of records and their assistants felt the treatment sheet should contain the

physician's original orders and should be filed with the hospital, that where interns are not available Sisters may take the histories, that when private patients are sent to the hospital the physician should send a copy of his history of the case, that operating notes should be dictated immediately following the operation, that records belong to the hospital and should be kept in its record room, that charts should be kept in the chart room out of reach of patients, and that a summary sheet is superfluous where the summary is made on the chart.

The conference of hospital service and dispensary workers urged the more general establishment of cardiac clinics along the lines laid down by the American Cardiac Association. It felt that the fees collected by the dispensary should be used for its upkeep, that student nurses should be given a brief course of lectures dealing with the scope and work of the social service department, that head nurses should notify the social service worker of the discharge of patients twenty-four hours in advance, that there is great need of more psychiatric clinics in general hospitals, and that the general lack of social service departments in Catholic hospitals is most unfortunate.

By a series of resolutions the convention went on record as follows: Although the association strongly urges the further organization of state conferences, this position must not be construed to mean the displacement of the annual convention of the association.

Hospitals should make every effort to instruct the clergy so that they may lead their congregations to take a more sympathetic interest in hospitals. The bishops were urged to give more consideration to hospitals and to appoint diocesan directors.

National Hospital Day was endorsed and members of the association were urged to participate in its observance. Congress was urged to allow the duty on surgical instruments to remain as at present, and at any rate not to increase it beyond three per cent.

The Gorgas Memorial was endorsed.

Before the convention closed Father Moulinier appointed a special committee to advise with the president relative to the reorganization of the association.

The commercial exhibit was an unusually complete one. During the convention the exhibitors held a meeting for the purpose of organizing a trade association which will have for its purpose better service to the hospitals.

The following officers were reelected: honorary president, Most Reverend Sebastian G. Messmer, Milwaukee; president, Rev. Charles B. Moulinier, Milwaukee; active vice president, Rev. P. J. Mahan, Chicago; secretary-treasurer, B. F. McGrath, Milwaukee; executive board, Dr. Louis D. Moorehead, Chicago; Sister Rose Alexius, Cincinnati; Mother M. Madeleine, Minneapolis.

The following trustees were elected to take the place of three whose term had expired: Rev. T. J. MacMahon, Regina; Rev. J. D. Sullivan, New Orleans; Sister de Pazzi, Chicago.

WISCONSIN, MINNESOTA AND IOWA FAVOR JOINT HOSPITAL CONVENTION

HOSPITALS of Wisconsin, Minnesota and Iowa will meet annually hereafter in a tri-state hospital conference, if action taken at the third annual convention of the Wisconsin Hospital Association meets with general approval. The convention was scarcely under way when the question of forming a tri-state convention was broached, expressions of opinion were sought and a committee of six, two from each state, appointed to consider the proposal and report their conclusions to the convention.

The committee consisted of Dr. Walter E. List, superintendent of Minneapolis General Hospital, and Mr. Williams Mills, superintendent of the Swedish Hospital, Minneapolis, representing Minnesota; Miss C. J. Garrison, superintendent of Sunny Crest Sanatorium, Dubuque, and Dr. F. E. Sampson, superintendent of the Community Hospital, Creston, representing Iowa; and Dr. William Kiley, superintendent of Columbia Hospital, Milwaukee, and Miss Johanna Mutschmann, superintendent of La Crosse Lutheran Hospital, representing Wisconsin.

Committee members met with Dr. A. R. Warner, executive secretary of the American Hospital Association, and on Thursday morning submitted a report recommending that a tri-state hospital convention be called annually, that the next convention be held in Minneapolis about the middle of May, 1923 and that Drs. F. E. Sampson, A. B. Ancker, W. E. List and Mr. William Mills be appointed a committee to make the necessary arrangements for this meeting. It was further suggested that the Minnesota Hospital Association resume its activities and that the hospitals of Iowa organize a state association.

Following the customary invocation and a brief address of welcome by Mr. A. A. Bentley, the mayor of La Crosse, the Rev. Hermann L. Fritschel, rector of Milwaukee Hospital, delivered the presidential address, in which he analyzed the hospital situation in the states of Wisconsin, Minnesota and Iowa, called particular attention to the fact that eighty-two per cent of the hospitals of these three states have less than 100 beds and made a plea for greater consideration of the peculiar questions and conditions that confront these institutions. The Rev. Mr. Fritschel outlined the proposal for a tri-state hospital association, called attention to the advantages of such an organization and especially emphasized the fact that its formation does not necessarily imply the abandonment of the individual state associations entering into the arrangement.

In his report as executive secretary and treasurer Mr. H. K. Thurston, business manager of Madison General Hospital, sketched the history of the Wisconsin association since its inception on September 16, 1920, and reported a balance in the treasury of \$413.28.

As Dr. A. R. Warner, executive secretary of the American Hospital Association, who was scheduled to deliver an address at this session was delayed in reaching La Crosse, the Wisconsin Hospital Association adjourned and the delegates including representatives of the hospitals of Minnesota and Iowa met as a committee of the whole and devoted the remainder of the morning to a discussion of the president's proposal relating to the organization of a tri-state hospital association. Dr. A. B. Ancker, Dr. Walter E. List, Mr. William Mills, Miss Harriet S. Hartry, Miss Adah H. Patterson, Mr. C. C. Jensen, Miss C. J. Garrison, Dr. William E. Kiley, Dr. Myron W. Snell and Mr. H. K. Thurston participated in the discussion. The consensus of opinion was in favor of the inauguration of such an association.

Nursing education and the American hospital, the relation of the superintendent of nurses to the superintendent of the hospital, the standardization of hospitals of less than one hundred beds and the Wisconsin law for the registration of nurses were the major topics discussed at the session of Wednesday afternoon.

The first subject was admirably presented in a well-thought-out paper by Dr. Richard Olding Beard of the University of Minnesota which appears in the department of nursing in this issue of *THE MODERN HOSPITAL* (page 48).

To meet the increasing demand for nurses of every description Dr. Beard in summing up the discussion of his paper outlined the following measures which in his opinion should be adopted:

1. The education of the people in the economy of a larger use of the hospital as the desirable home of the sick in which competent nursing can be secured.
2. The creation or further development in public or general hospitals of a division for per diem patients who are not indigent, but unable to pay more than a suitable per diem for hospital and nursing service.
3. The simultaneous discontinuance of a per diem service in private hospitals, where it cannot be economically supported, and the recognition that the role of the private hospital is that of an hotel for the sick, which should be



Hospital workers from three states gathered at La Crosse, Wis., at the annual meeting of the Wisconsin association, May 31 to June 1.



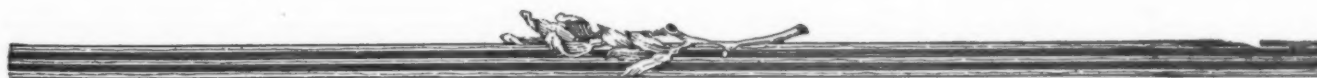
COMPLETE oral hygiene as practised by nurses and other attendants is not only recognized as good administration, but is a necessary precautionary measure adopted by medical directors, superintendents and superintendents of nurses in the safeguarding of patients.

Interest in sanitary, healthy mouths of hospital personnel grows steadily. The subject will receive even more attention in the future.

Colgate's Ribbon Dental Cream does all that a dentifrice can do in cleansing the teeth and maintaining oral hygiene.

*A generous supply of samples
will be sent postpaid to profes-
sional friends upon request.*

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self-supporting but in which charges for paying patients should be graded to the accommodations desired, as they are in the hotel for the well.

4. The further development or extension under visiting nurses' associations and nurses' registries of the principle of hourly nursing service, under which graduate nurses may be furnished for periods in a day, commensurate with the patients' needs, at hourly charges.

5. The organization of nursing clinics by groups of graduate nurses, through which either office or home nursing for any required period may be secured. These clinics could be made cooperative alike for nurses and patients providing lesser living expenses for the one; and fees, susceptible either of increase or decrease according to the patients' capacity to pay, for the other. Such organizations should be under a business manager who would pay expenses out of, and collect fees into, a common fund, the net proceeds of which should be pro-rated to the members on a basis of hours of service rendered.

6. A suggested arrangement by which senior nurses in the schools might be assigned for brief periods of time, under the direction of a school supervisor, to private cases at moderate charge. He was inclined to believe that this would prove a good contribution to the education of the nurse.

Following Dr. Beard's paper Miss Ada Belle McCleery, superintendent of Evanston Hospital, Evanston, Ill., discussed the relation of the superintendent of nurses to the superintendent of the hospital. In her address Miss McCleery defined the superintendent of the hospital and the superintendent of nurses, and emphasized the dual function of the latter in her supervision of the care of the sick and the education of young women as nurses. She contended that the respect of the superintendent of the hospital and the superintendent of nurses for each other must be founded on character and ability. She enumerated the handicaps of the superintendent of nurses as petty annoyances, such as the giving of orders arbitrarily by the superintendent of the hospital without conference, and the lack of interest in the nursing problems of the hospital on the part of the board of trustees.

Miss McCleery made a plea that both the superintendent of the hospital and the superintendent of nurses should sit in executive session with the hospital's board of trustees. "Why," she queried, "should the superintendent of the hospital carry the message of the superintendent of nurses to the board of trustees? He or she might be incapable of interpreting it; he or she might forget."

In the absence of Dr. Frederick W. Slobe of the American College of Surgeons Dr. James L. Smith read Dr. Slobe's paper which was devoted to a discussion of the four minimum standards of the College now familiar to readers of *THE MODERN HOSPITAL*.

Tells of Nurses' Registration Law

The paper on the Wisconsin law for the registration of nurses by Miss Adda Eldredge, director of nursing education for Wisconsin, Madison, was moved forward from Thursday morning's session. Miss Eldredge traced the origin and evolution of the Wisconsin registration law and outlined what had been done in the state thus far and what it was hoped in time to accomplish in the way of stimulating enrollment in nursing schools, helping in the organization of new schools, securing properly trained superintendents of nurses and superintendents of nurses' training schools and elevating the general status of nursing work in the state.

The evening session of Wednesday was public. It was

held at the Congregational Church and attended by about 200 persons. Dr. Walter E. List showed a motion picture of the work of the Minneapolis General Hospital, described on pages 347-350 of the April issue of *THE MODERN HOSPITAL*. Dr. List's picture was followed by an exceedingly interesting illustrated talk on plastic surgery by Dr. George V. I. Brown of Milwaukee. Dr. Brown brought home to his hearers the wonderful possibilities of the new art and science of plastic surgery, particularly as it has been developed during and since the great war.

The concluding address of the evening session was delivered by Dr. F. E. Sampson of Creston, Iowa. He discussed the community hospital in his well-known witty and incisive fashion, drawing heavily on various charts to clinch the points he sought to drive home. Dr. Sampson drew a picture of the chaotic, unorganized condition of the various public health and welfare agencies of the state of Iowa, and showed how they were gradually being organized into cooperating groups working for common ends under paid executive leadership.

Thursday morning's session was opened by a brief address by Dr. A. R. Warner, in which he advocated the organization of sectional hospital associations, comprising a number of individual state associations, that would be big enough to make live meetings possible and sustain the interest of the hospitals year in and year out.

Scope and Staff of Laboratory

The hospital laboratory was the subject of a well developed paper by Dr. T. B. Magath of the Mayo Clinic, Rochester, Minn. The person who should be placed in charge of the laboratory, Dr. Magath observed, should depend on the type of work the laboratory does.

If the work is largely surgical then the laboratory should be placed in charge of a tissue pathologist; if largely medical, in charge of a clinical pathologist. In the smaller hospitals a laboratory technician, supervised by some doctor of the staff on the medical side, may meet the hospital's need. The actual interpretation of results should in all cases be done by someone trained in the field. The laboratory to do the work efficiently must be located in a suitable room, which is at least 12x16' in dimension. A room on the top floor of the hospital is to be desired and, if tissue work is to be done, preferably one near the operating suite.

In Dr. Magath's judgment the laboratory of the hospital of from fifty to 100 beds should carry on the following lines of work: tissue pathology, hematology, urinalysis, gastric analysis, stool examination, sputum examination, bacteriology and serology. He felt it is impractical for a hospital of this size to do its own Wassermanns. For this it should rely upon the board of health or upon a commercial laboratory. Attention was called to the difficulty of getting capable persons to man the laboratories, and Dr. Magath made the startling observation that out of 2,500 applications for fellowships at the Mayo Clinic only two applied for fellowships in pathology.

Speaking on the subject of the hospital dietitian Miss Addy I. Marlatt, director of the course in home economics at the University of Wisconsin, stressed the value of diet in the remedial care of the sick and observed that the most effective treatment of the sick is accomplished where the triumvirate of the physician, the nurse and the dietitian work hand in hand. Miss Marlatt pointed out that the dietitian must cover all of the food work of the hospital and to carry on her work efficiently must go with the physician on the wards and learn the reaction of the patients to the food served them. Where the dietitian

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Eminent authorities find great value in the use of *Knox Sparkling Gelatine* in milk for infants and adults because of a greater absorption of the milk and for preventing digestive disorders from the non-emulsification of the fat masses.

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Write for special quotations on quantity purchases of the one and five-pound cartons.

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does not visit the patient, cooperate with the doctor, and visit the clinics, she cannot do her best work. Miss Marlatt opened up great vistas of research in food that must still be explored.

Thursday afternoon was devoted to a brief address by Mr. Richard E. Schmidt of Chicago on "Hospital Architecture" and to a round table which in the unavoidable absence of Mr. Asa S. Bacon, superintendent of the Presbyterian Hospital, Chicago, was conducted by Dr. A. B. Ancker.

In his informal talk Mr. Schmidt touched upon some of the newer developments and features in hospital construction and called attention to the fact that whereas twenty-five years ago 6,000 cubic feet of air per patient was adequate, now 10,000 cubic feet is required in a well-appointed hospital, and often, when provision is made for future expansion with accommodation for nurses, as high as 12,000 or even 15,000 cubic feet may be required. Touching on the cost of construction he stated that twenty-five years ago it was possible to build a hospital for twenty cents a cubic foot, but in 1914 it cost thirty-five cents and in 1918 seventy cents. This year costs have dropped to sixty cents a cubic foot.

Suggests Economies in Construction

Mr. Schmidt said it would greatly simplify the problem of the hospital architect if there were more uniform methods of hospital operation, particularly of the food service, and suggested that a comprehensive study of food service for hospitals of different sizes be made. He said that the cost of a good dumb waiter for the transportation of food is now almost equal to the cost of an automatic elevator and told his audience that elevators can now be equipped with special levelling devices which will automatically bring them to the exact level of any floor. He urged the installation in hospitals of sound deadening devices and materials to minimize the noise of elevators and electric fans, etc. He also outlined a method he has evolved for protecting x-ray departments with four or five thin layers of lead foil, which can be applied by a paper-hanger at about one-fifth the expense of the older method of having a plumber install sheet lead. He cited the growing use of friction hinges instead of door checks, hooks instead of door knobs, and called attention to a new double glass window in which the outer glass is held by means of a metal frame pressed against felt, and to a movable floor lamp for night service which has a round bottom and, though kicked, will always bob up and remain lighted.

Among questions discussed in the round table was the affiliation of general hospitals with tuberculosis sanatoriums. Miss Adda Eldredge, director of nursing education for Wisconsin, informed the delegates that the National League for Nursing Education advocates this affiliation and said that in her opinion poor housing and lack of proper supervision are the outstanding objections.

Answering the question of how complete a history should be taken of tonsil cases to satisfy the requirements of the American College of Surgeons Dr. Smith said a brief history that will justify the removal of the tonsils is adequate. He also feels that an examination of the chest and urine should be made, as well as a coagulation test.

On a show of hands it was found that fifteen of the hospitals represented at the conference discounted their bills before the fifteenth of the month. Answering a question as to the essential things to be considered at a regular medical staff meeting, Dr. Smith listed infections, deaths, unimproved cases and mistakes in diagnoses. In a discussion of laboratory charges a strong plea was made

for a flat rate on the ground that it gives the hospital a clear idea of definite financial returns, puts the laboratory in the position of a producer and makes the doctors feel free to develop routine laboratory tests. Mr. Fritschel suggested the desirability of having all the laboratory work of the hospital supported by endowment.

Names New State Officers

Following the afternoon session the delegates were taken on a delightful automobile tour of the city of La Crosse and the surrounding country.

A commercial exhibit consisting of twenty-one booths was held at the Elks' Club Hall, next door to the Chamber of Commerce buildings.

The officers for the ensuing year are: president, Rev. H. L. Fritschel, director, Milwaukee Hospital, Milwaukee; first vice president, Dr. T. G. Meacham Jr., president of board, St. Luke's Hospital, Racine; second vice president, Dr. Myron W. Snell, surgeon, National Home, Milwaukee; treasurer, Mr. H. K. Thurston, business manager, Madison General Hospital, Madison; trustee for five years, Miss Shirley C. Titus, R.N., superintendent of nurses, Columbia Hospital, Milwaukee.

SANATORIUM ASSOCIATION VOTES TO MODIFY CLASSIFICATION

The American Sanatorium Association held its annual session this year in Washington, D. C., on May 3 with Dr. Lawrason Brown in the chair and Edward S. McSweeney at the secretary's post. The meeting was unusually large this year and the discussions widely participated in.

The convention voted that a committee be appointed to consider the present scope and activities of the American Sanatorium Association and to report at the next annual meeting on the desirability of reorganizing the association.

Another matter of interest in the convention proceedings was the adoption of the recommendations of the committee to include x-ray findings in the classification of tuberculosis. The proper classification of cases is especially important in a disease such as pulmonary tuberculosis where the varying conditions met with are not sharply defined one from the other, it was brought out, and it is absolutely essential to have some definite standard to insure that reports and descriptions of individual cases are in comprehensible language and carry a precise meaning. The classification in use came from the American Sanatorium Association as a modification of the Turban classification used abroad, and is used practically all over the United States. Modifications have been made from time to time, but only after careful thought. The present one has been under consideration for two years.

INDUSTRIAL PHYSICIANS MEET

The seventh annual meeting of the American Association of Industrial Physicians and Surgeons held in St. Louis, May 22 and 23, was more largely attended and far broader and more spirited in its discussions than any previous conference of the association. The addresses offered and the more important discussions will be passed upon for publication.

Officers of the association for 1921 were all returned by the convention. They are: president, C. E. Ford, M.D.; vice president, C. F. N. Schram, M.D.; second vice president, L. A. Shoudy, M.D.; and secretary-treasurer, W. A. Sawyer, M.D.

JELL-O

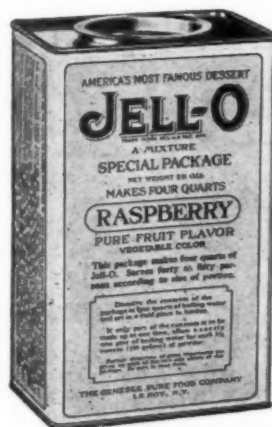
"America's Most Famous Dessert"

WHAT JELL-O IS

IT is no longer necessary in our copy to tell you how convenient, how easy to make, how inexpensive, and how downright good Jell-O is. Everybody seems to know that. So we are going to set down a table here to show how near Jell-O is like the natural fruit Jelly that you make in your own home.



*Domestic Size
makes one pint*



*Institutional Size
makes one gallon*

Jell-O		Fruit Jelly	
Sugar	Vegetable Color	Sugar	Fruit Color
Water	Fruit Flavor	Water	Fruit Flavor
Fruit Acid	Gelatine	Fruit Acid	Pectin

You will notice by this table that the great difference is that Jell-O contains gelatine while ordinary jelly contains pectin.

Pectin is a substance contained in fruit juice. It is the element that causes the juice to "jell" when it has been cooked long enough. No particular claims are made for it as a food.

Gelatine, on the other hand, causes Jell-O to "jell" and is besides a valuable food element. Its importance is indicated by its extensive use in hospitals and in the diet lists prescribed for almost all conditions.

If you are particularly interested in these ingredients we suggest you write us for our complete Food Folder.

Yet Jell-O does not pretend to be a substitute for a fruit jelly. It is not so sweet but that children may eat all they care for. The amount of fruit acid (from grapes) is just enough to be palatable. The colors and flavors are so nicely balanced and measured that it is always beautiful to look at and delightful to the taste. Best of all *you'll like Jell-O after you have eaten it.*

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HOSPITAL ASSOCIATION OF PENNSYLVANIA MEETS IN FIRST ANNUAL SESSION

WHAT has been officially designated as "the first annual meeting" of the Hospital Association of Pennsylvania was held in Harrisburg on May 18 and 19. Although the Pennsylvania association was founded as recently as December, 1921, it boasts of well over 100 members, most of whom were present at the Harrisburg convention.

Owing to the short tenure of the officers chosen at the date of organization, the convention unanimously voted their retention for the coming year. The date and place of the next annual session was left to the judgment of the trustees.

Because of the absence of Dr. Daniel D. Test, superintendent of Pennsylvania Hospital, Philadelphia, and president of the state hospital association, the convention found one of the vice-presidents, Dr. J. C. Biddle and Col. J. H. Bigger, in the chair at various sessions. A telegram of greetings from Dr. Test bespoke his interest in the meeting, and a complimentary message from the convention to him in California expressed the desire for his speedy recovery from illness and his return to the helm of the association.

Round table discussions at the convention seem to provoke debate of extraordinary interest on many state and local questions, particularly in reference to state aid for hospitals. Several addresses touched upon problems of vital concern to the institutions represented, as the ready after-discussion seemed to indicate.

Mayor George A. Hoverter of Harrisburg greeted the hospital workers as the convention opened at 10 o'clock on May 18 at the Penn-Harris Hotel, with Vice President Bigger presiding. Reports of committees consumed but little time and allowed the superintendents time to inspect the commercial exhibits.

Benefits of Cooperative Buying

Some advantages to the individual hospital in cooperative buying were cited in the first paper of the afternoon session, read by Mr. Philip Cross, purchasing agent for the Hospital Bureau of Standards and Supplies, New York. Among the benefits accruing to the hospital from its dealings with a central purchasing bureau, Mr. Cross discussed the following:

- Lower prices obtained through buying in large quantities.

- Savings in commissions and in expenses of shipping and handling.

- Lower prices obtained because of the prestige and advertising gained by the sellers.

- Saving effected by an experienced buyer.

- Benefit of competition from the best sources.

- Greater certainty as to a satisfactory quality of supplies.

- Better standards established by cooperation.

- Advantages of definite specifications.

- Advantages of continuing agreements and saving in the labor of renewal.

- Benefit of concentrating orders.

The Nurse as a Teacher of Health

"Public Health Aspects of Nursing Education" was the subject of an interesting paper presented by Miss Katharine Tucker, superintendent of the Visiting Nurse Society of Philadelphia.

"During the initial period in the nurse's training, she should see herself quite as much a teacher as a technician in the art of healing," said Miss Tucker. "The hospital can be presented to her not as an institution contained within four walls, but as a community agency—a tremendous health force projected into the whole life of a community, tied up closely in its purpose and functions with all other agencies working for health. In the consideration of any patient, he should be seen not only as he is in bed, but traced back to his home and thought of as a part of a family and of a community.

"Another very practical way of helping the student get the positive health approach is in terms of her own health. As she is made to feel her own responsibility toward keeping herself well, she will have become instilled with the importance of health promotion rather than cure only.

"In teaching practical nursing during the intermediate and junior year the student should be urged to think constantly in terms of getting the patient back to normal, not simply in making him comfortable. She should be taught to be observant of indications as to possible causes quite as much as of present symptoms. In her senior year it is essential that every nurse should be seeing and seizing her opportunity to protect the health of the public."

Sister M. Innocent, superintendent of Mercy Hospital at Pittsburgh, concluded the afternoon's program by a paper on "Team Work in a General Hospital."

The Rev. Sister brought out in her brief address that the same knowledge of organization and administration in the wise selection and the fixing of responsibility upon supervisors and heads of departments in the hospital is required as in any large corporation and that only as this ability exists in the superintendent is the organization successful.

The result of team work in all the departments of the hospital should be, according to Sister M. Innocent, that the patient will not feel he has lost his identity but rather that he is in the midst of a large family, every member of which is interested in doing his share to restore him to health.

Feast for Brain and Stomach

Occasion for social intercourse was given the delegates at the banquet on the evening of May 18 at which, as Toastmaster Biddle said at its close, there was a good feast both for stomach and brain. Gov. William C. Sproul who was to have been the guest of honor was compelled to be out of the city and he sent as his representative Gen. Charles A. Snyder, state treasurer, who set his successors on the program an example of after-dinner wit difficult to follow.

Representing Dr. Edward Martin, state health commissioner, who could not fill his place on the program was Col. McClain who sketched some of the difficulties which confront the country doctor.

"Much of the unrest in the medical profession today," asserted Col. McClain, "is due to the fact that the bedside doctor realizes he is not well prepared. The days of treatment, the days of allaying symptoms without finding out the cause are gone and the country doctor wants to go where medical facilities are, where he can learn how to be a diagnostician. This problem must be solved by



YOUR ROOMS, if properly ventilated, will take on an atmosphere of pure coolness—absolutely quieting to those who seek balm for their annoying pains and distorted nerves.

The modern hospital has been forced to make its rooms livable during the heated season. An electric fan motor operated on a systematic basis has been conceded to be the most practical and profitable method of serving hospital patients.

The Taxifan is now permanently installed in some of the most progressive hospitals throughout the country and its reliable and delightful performance is gaining for it increased popularity.

Your attention is directed to the slot attachment. The Taxifan will run one hour for each nickel inserted in slot—five nickels at a time, one after the other, can be passed through to obtain a continuous five hour run. Inside the coin vault is a cash register which accurately counts the revenue as deposited and relieves you of tedious book-keeping.

It is manufactured and absolutely guaranteed by the General Electric Company.

Last shipments are now being completed. If you would avail yourself of the opportunity to install the Taxifan this season, telegraph collect for price quotations, etc. You will be allowed extended terms of payment.



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MEMPHIS, TENN.

you hospital men by having your institutions so equipped that the doctor in that community can come into your hospital and learn how to make a diagnosis."

The feature of the evening's program was the able address on "The Recent Trend of Hospital Development" presented by Dr. Frederic A. Washburn, director of the Massachusetts General Hospital at Boston.

The hospital's obligation to the great middle class was stressed by Dr. Washburn. For them, he declares, hospital accommodations are inadequate and they must often be treated in their homes where physicians lack access to proper laboratory and scientific study. Sickness for them is a nightmare, for they are not only troubled by the disease and the question of its outcome, but their financial problem is grave and heavy. Hospitals must meet this difficulty for the good of society.

One General Hospital Usually Sufficient

So great is the cost of the modern hospital, said Dr. Washburn, that there cannot be extensive duplication. Only the very largest centers of population, in his opinion, should have more than one general hospital group. So also does the cost of modern methods and diagnosis make it impossible to duplicate facilities in any but the largest communities. Special departments of medicine are better handled as branches of a general hospital than as separate institutions.

Dr. Washburn strongly favors the teaching hospital and believes it is to the advantage of the well-to-do patients if the house officers and students have access to them and if they are subjects of the same keen study now given to the charity patients.

"The whole problem of the training of nurses is in a stage of transition. My personal belief is that it will be met by shortening a bit the general training so that a woman who has received this general training will be fit for bedside nursing and that special education in other branches of nursing will be a post-graduate affair given partly by the university, partly by the hospital or district nursing association."

"One post-war reaction, as it has affected hospitals, has been in many ways beneficial. There has been a tendency to question all existing things to find out whether they are done in the best way possible and, if not, to change them. In the days when hospitals cared for the poor only it was necessary for the large institutions to be heavily endowed or else have a considerable annual deficit. It was expected that the community would make up these deficits and the business management of the hospital was certain to go before the public year after year beseeching funds to pay off these large deficits.

"With the appreciation of the fact that it is the function of the hospital to serve all classes in the community, and with the change in spirit which makes all elements of the population turn to the hospital in time of sickness, has come a possibility of change in this financial situation. It is possible so to balance the building of your hospital that you will have the right proportion of patients who pay considerably more than cost, patients who pay cost and patients who pay less than cost.

The morning session on May 19, the second day of the convention, was given over to round table discussions on general hospital problems and on nursing questions; the former led by Dr. John A. Drew, superintendent of Chester Hospital, and the latter by Miss S. Lillian Clayton, R.N., superintendent of nurses at Philadelphia General Hospital. Of the two discussions, the nursing round table was perhaps the most productive and stimulating.

At the nursing round table, Miss Jessie E. Turnbull of

the Elizabeth Steele Magee Hospital at Pittsburgh opened the discussion with a paper on the problems met in the general hospital of fifty beds and over. The small hospital's difficulties were discussed by Miss Edith E. Yingst of Carlisle Hospital.

The Pennsylvania inspector of training schools, Miss Mary, in concluding the round table declared:

"A hospital which does not have facilities to prepare its nurses for the care of both mental and communicable diseases, plus medical and surgical work, obstetrics, pediatrics and dietetics, is not sending women out properly equipped to take care of the public health. Unless we educate the young woman while in school to the needs of the mental hospital, to the needs of the children's hospital or the knowledge of taking care of children, she is not properly qualified."

Fair Play for the Intern

Opening the program of the final session was Dr. I. D. Metzger, president of the Pennsylvania Board of Medical Education and Licensure, whose address had to do with the hospital's obligation to interns. The Pennsylvania legislature was the first state assembly to pass an intern training act and is the only state which supervises its intern training.

"Certain things are demanded of the hospital for the intern. In the first place, he has a right to some place to sleep which is better than a basement. Then, I have heard complaints from some places that interns are not being properly fed; in other places they have no hours for recreation. The intern ought to be well housed and be given a good physical existence; if you are not doing that for him, you have no right to ask him to come. Remember these are potential professional men and they have as many social rights as have the superintendents of the hospital.

"In the second place, there must be a professional life worth while for him. Your hospital must have a staff that will see to it that his work is carried out carefully, systematically and efficiently. These things require a record system and care in the keeping of records which cannot be questioned. Then every new case that comes before him when he gets out in practice will be a case for investigation."

Baldy Emphasizes Credit System

Dr. John M. Baldy, chief commissioner of the Pennsylvania Department of Public Welfare, gave an interesting address on the relation of his department to the hospitals of the state.

"You have the benefit of being the first commonwealth," said Dr. Baldy addressing the convention, "of being the first group of hospital people to adopt clean, pure business methods in your institutions and you will remain before the country as an example in that matter. But if you, and if the American Hospital Association, stop with book-keeping you are going to fail. Your own energies have been wasted, if you do not, as every other business house that has any right to be called a business house has done, establish a credit department, then you have spelled failure from the beginning. Your credit department is the keynote of the whole situation and with a properly conducted credit department and a proper book-keeping system, the hospitals of the state of Pennsylvania, I am confident, will be able to be independent financially,—a thing they never have been before and never could have hoped to have been without it."

The final paper on the program was an able discussion of hospital dietetics by Mr. Elmer Matthews, superintendent of Wilkes-Barre City Hospital at Wilkes-Barre.

CASTLE

The Surgeon and Superintendent were talking—

"Good morning, doctor. How are you?"

"Morning, I'm worried about those infections and I'm afraid of that sterilizer. What check do we have on it?"

"The nurse is very competent."

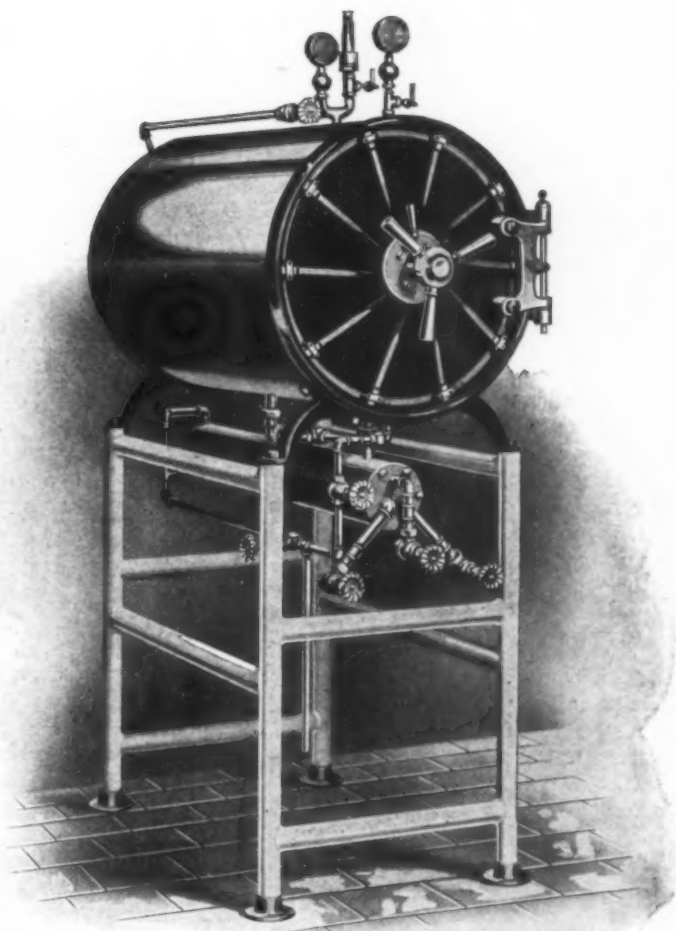
"I know that. I've talked with her, and she follows the directions on the wall. But are we sure even so? She opens a valve for three minutes after she gets up pressure, and thinks she creates a vacuum. But the gauge tells her there is only 6, or even 10, inches of vacuum; and it takes thirty inches to make a perfect vacuum. What becomes of the rest of the air?"

"Left in the autoclav, I suppose."

"Yes, and it is heavier than the steam and is compressed in the bottom of the sterilizer. We don't know whether it ever mixes with the steam or not. If it does, steam and air at 15 lbs. pressure are not as hot as steam alone at 15 lbs. pressure."

"Perhaps that accounts for our inability to melt controls in the bottom of the sterilizer. What had we better do about it?"

"First of all, we must have positive, not approximate sterilization. Now I remember the system the Castle people use. They make a great point of getting all the air out of the bottom of the sterilizer. They force it out by the pressure of the steam itself. They certainly know our problems, and I believe our new sterilizer shall be a Castle. Suppose you write them. Here is the address."



WILMOT CASTLE COMPANY, 1151 UNIVERSITY AVE., ROCHESTER, N. Y.

NEW ENGLANDERS ASSEMBLE IN FIRST ANNUAL CONVENTION

THE New England Hospital Association held its first annual meeting since its organization and recognition as a geographical section of the American Hospital Association on May 17-18 at the Boston Medical Library at Boston. A fruitful program was presented at the meeting and delegates seemed to find equal profit from their visits to various of the thirteen hospitals in the city which threw open their doors to the visiting executives.

Dr. Lewis A. Sexton of Hartford Hospital (Conn.) is the newly elected president of the New England association. Other officers named by the convention include: Miss Mary M. Riddle of Newton Hospital, Newton Lower Falls, Mass., vice-president; Dr. Nathaniel W. Faxon of Massachusetts General Hospital, Boston, secretary and treasurer; Dr. Joseph B. Howland of Peter Bent Brigham Hospital, Boston, trustee for four years; Dr. John M. Peters, Rhode Island Hospital, Providence, trustee for three years; Miss Rachel G. Metcalfe, Central Maine Hospital, Lewiston, trustee for two years; Miss Ida F. Shepard, Mary Hitchcock Memorial Hospital, Hanover, N. H., trustee for one year.

Following an informal presidential address by Joseph B. Howland of Peter Bent Brigham Hospital were heard the reports of officers and committees. Secretary Faxon's report showed that of the 191 persons in New England who are members of the American Hospital Association, 115 are members of the New England geographical section. Twenty-eight hospital workers not affiliated with the American association brought the New England total up to 143.

Demonstrates Lighting Effects

An outstanding paper in the convention was the first scheduled address by Mr. Alfred J. Hixon, president of the Hixon Electric Company, Boston engineers, on "Modern Hospital Illumination." His remarks took added value through a display of various light bulbs and the shades best adapted to directing and diffusing light. Members showed ready interest in the subject and for forty-five minutes plied Mr. Hixon with questions or discussed the solution of their own lighting problems.

A brief round table discussion took place before the morning session was adjourned.

Dr. Thomas S. Brown, superintendent of the Mary Fletcher Hospital at Burlington, Vt., and Dr. D. L. Richardson, superintendent of the Providence City Hospital, R. I., occupied the speaker's platform during the afternoon session on the opening day. Dr. Brown's paper on "The Hospital as an Educational Institution in the Community" contained much that was suggestive and inspirational. The discussion that followed brought up several new angles to the subject. As a pioneer in the study of contagious disease technique, Dr. Richardson talked on "Principles to Follow in Building Children's Wards and Wards for Contagious Diseases."

Round table discussion and a question box concluded the day's session.

Dr. Harold W. Hersey, superintendent of New Haven Hospital at New Haven, Conn. opened the program on the second day of the convention with a paper on the hospital laundry.

"The hospital laundry," said Dr. Hersey, "presents a

problem the satisfactory solution of which calls for efficient organization of the laundry personnel, standardization of labor, a definite schedule, accurate records and efficient management, thus developing maximum results and minimum expenditure."

Dr. Hersey's paper began with the construction of laundries and carried on through equipment and methods. He urged the hospital executives to interest themselves in the activities of men interested in commercial laundries, characterizing them as a keen and progressive group of business men who are raising the laundry industry to a high standard of efficiency. Further emphasis was placed on the necessity of accurate records of laundry output so that the weekly expense can be analyzed. Computation of hospital laundry earnings in terms of charges made by the commercial laundry is not entirely satisfactory, in his opinion.

Nurses' Home Luxuries

"The Nurse's Home" was the topic assigned to Miss Grace Haskell, superintendent of Wentworth Hospital at Dover, N. H., for presentation. Her well prepared paper provoked lively discussion on what was entirely desirable and what was luxurious in housing students in nursing.

In discussing "Publicity for the Hospital" before the convention Dr. George H. Stone, superintendent of the Eastern Maine General Hospital at Bangor, said:

"If the street railway, telephone or some other public utility would shut down for a brief period, such a great clamor would immediately be aroused that steps would be taken at once by the public toward the prompt resumption of service. On the other hand were the hospital compelled through lack of funds to close even a part of its plant, such action would receive only passing notice and would be the subject of criticism that such curtailment was due to extravagance in administration, little realizing the severe blow which a loss of hospital service would mean to the life and health of the community.

"The best way to overcome this general lack of interest in some communities toward hospitals and their needs is an intelligent campaign of publicity and education. Such a campaign should be started not merely for the purpose of appeal for funds but should be kept up indefinitely for the hospital owes this information to the public from which it looks for its support. Such a campaign is bound to result in a better understanding generally of the public toward hospitals and in the end the hospital will be assured of better support."

Doctor Latimer of Wilmington had been long afflicted with a cough and an occasional hemoptysis. He entered into the American army as a surgeon, and served in that capacity till near the end of the war; during which time he was perfectly free from all pulmonary disease. The spitting of blood returned soon after he settled in private practice. To remedy this complaint, he had recourse to a low diet, but finding it ineffectual, he partook liberally of the usual diet of healthy men, and he now enjoys a perfect exemption from it.—Medical Inquiries and Observations (1809), by Benjamin Rush, M.D.

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job throughout. Then you will be assured of perfect results.

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When using advertisements see Classified Index, also refer to YEAR BOOK.

STANFORD UNIVERSITY HEAD IS NEW PRESIDENT-ELECT OF A. M. A.

More than 5,000 physicians and surgeons attended the annual convention of the American Medical Association held in St. Louis, May 22-29. On only three previous occasions in the history of the medical organization have the 1922 figures of 5,174 been exceeded.

Dr. Ray Lyman Wilbur, president of Leland Stanford Jr. University, is the new president-elect of the association. Other officers chosen at the House of Delegates session on May 25 are: vice president, Dr. Willard Bartlett, Missouri; secretary, Dr. Alexander R. Craig, Illinois; treasurer, Dr. Austin A. Hayden, Illinois; speaker of House of Delegates, Dr. Frederick C. Warnshuis, Michigan; vice speaker, Dr. Rock Sleyster, Wisconsin.

New members of the standing committees placed in nomination by President George E. de Schweinitz and approved by the governing body are: Council of Medical Education and Hospitals, Dr. William Pepper, Pennsylvania; Judicial Council, Dr. J. H. J. Upham, Ohio; Council on Health and Public Instruction, Dr. Walter B. Cannon, Massachusetts; Council on Scientific Assembly, Dr. E. S. Judd, Minnesota.

The convention, among many outstanding resolutions, took action:

Appealing to Congress to provide sealed packages of whiskey of fixed standard and price for medicinal use only, or substantially to repeal the Volstead Act as it now applies to physicians,

Denouncing the Sheppard-Towner law as undesirable legislation,

Approving the organization of a women's auxiliary to the A. M. A.,

Extending its public health and preventive work by establishing a lay medical journal, to be in circulation before the next annual convention,

Protesting against the teaching of chiropractic to ex-service men at government schools and urging that vocational training in medicine be given in Class A medical schools,

Endorsing the "open door" policy on the part of all institutions carrying on vivisection for research,

Defining new principles of medical ethics,

Opposing all forms of state medicine, excepting such service as is provided by the Army, Navy and Public Health Service, and

Approving the Bursum bill providing treatment for disabled emergency officers who served during the World War.

Dr. A. D. Bevan of Illinois presented before the convention the report of the Council on Medical Education and Hospitals. The necessity of the hospital in medical practice was emphasized and special attention called to the need for the development of the community hospital.

"The solution of the hospital problem is the establishment of a hospital in every community where there are enough people to support it," says the report. "This hospital would enable three or more physicians to care for the patients in the immediate community and through the better roads and the automobile to reach patients in every outlying district promptly. In connection with this central community, outposts might also be established in smaller, outlying localities, where a physician of the staff might keep hours at regular intervals. This would enable him to look after the general needs of that community, to recognize cases requiring hospital attention and to arrange for the needed care. The solving of this

problem does not mean retrogression in either educational standards or methods of practice; it means the recognition of new conditions in medical practice and the establishing of community hospitals whereby these improved methods will be brought within the reach of all the people, those in the smaller towns and rural communities as well as in the cities."

The Association is planning to establish a list, not only of those hospitals approved for intern training but also of those approved as nonintern hospitals, it was announced.

The rapidly increasing demand for interns was the subject of comment and as causes contributing to this demand were given the large increase in the number of hospitals and that fact that a larger proportion of hospitals are making use of intern service; this, in turn, was attributed to the better qualifications of medical graduates. A survey being made by the council of all clinics and institutions giving medical service to ambulatory patients shows that there are 1,150 out-patient departments, 800 independent dispensaries, and approximately 200 clinics conducting "group practice." Including all clinics having to do with ambulatory patients, there are approximately 4,500. Complete returns are expected to increase these figures.

The 1923 meeting of the American Medical Association will be held in San Francisco.

TWO ILLINOIS ASSOCIATIONS MAY MERGE

A referendum vote of the members will decide whether the Illinois Hospital Association and the Downstate Hospital Association of Illinois are to merge. This poll follows the decision reached by special committees from both organizations that no question of policy now exists which will prevent their junction.

Following the regular annual meeting of the Downstate Hospital Association which was held in Chicago on May 18, committees of the two Illinois organizations met in conference and agreed to submit the proposed coalition to the members of the societies for action. Letters sent to members will seek their approval or rejection of the issue. In case the majority vote favors the merger, a convention will probably be held in the autumn at which time a new organization will be effected.

The Illinois Hospital Association is mainly an organization of Chicago hospital workers, while the constituency of the Downstate Association is largely executives from outside that city. An effort to reconcile the two bodies has been considered for some time.

The meeting of the Downstate Association on May 18 convened at the Great Northern Hotel in Chicago and consisted of a brief business session, a luncheon, round table discussion and a short program. Dr. A. R. Warner, executive secretary of the American Hospital Association, addressed the convention on "The Geographical Sections of the American Hospital Association," which paper was published in the June issue of THE MODERN HOSPITAL. The round table discussion was led by Asa S. Bacon, superintendent of Presbyterian Hospital, Chicago, and concerned itself with general hospital topics.

The old officers of the association were reelected: President, George S. Hoff of Aurora; vice president, J. W. Meyer of Aurora; and secretary-treasurer, Clarence H. Baum.

The committee appointed by the association to meet with representatives of the Illinois Hospital Association was composed of J. W. Meyer of Aurora; Mrs. Burgener of Pekin; F. E. Butcher of Danville; and the president.



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The Armour Thyroid Products represent all the therapeutic properties of normal Thyroid glands unimpaired, as all desiccating is done in vacuum ovens at a temperature never above 105 degrees F.

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Suprarenalin Solution.....1:1000

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Pituitary Liquid.....1/2 c. c. "O&S"

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Armour's Sterile Catgut Ligatures are made from selected lambs gut—plain, chromic and iodized; 000 to number 4

Literature to Physicians on Request

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is very reasonable in price. It will be found to serve economically every need, making unnecessary the building of special equipment. Kewaunee is the Standardized High Grade Laboratory Equipment of America.

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HINTS TO HOSPITAL SUPERINTENDENTS

PAINT FOR RADIATORS

The proper color for piping and radiators, in hospital or in home, is the color of the wall against which they stand, says George B. Hockel of Philadelphia, in an article of "Painting the Hospital" in a recent issue of *The Hospital World*.

"Who first conceived the notion that these, being made of metal, should be painted to simulate another metal, I do not know, but I do know that this happy thought has caused the ungraceful, if necessary, radiators in the land to stand forth conspicuous as fraudulent gold, bronze or aluminum creations that harmonize with nothing and interfere seriously with their only proper function," says Mr. Heckel.

In a metallic coating radiators do not give full efficiency by twenty per cent or more, according to tests made by the engineering department of the University of Michigan and by the Institute of Industrial Research at Washington.

The painting of radiators may materially affect the transmission of heat. A series of experiments were conducted two years ago to determine the effect of painting. Two cast iron rectangles were used; one was painted and the other left unpainted so that the painted radiator was always compared with the same unpainted radiator.

The radiators were first tested unpainted, and the condensation in the two were practically alike. One radiator was then painted with two coats of copper bronze and it was found that the heat transmission was reduced 24 per cent from the original cast iron. Two coats of terra cotta enamel were then placed over the four previous coats and the heat transmission was three per cent better than the original cast iron unpainted. This was repeated for fourteen coats, the last two being aluminum bronze. The transmission then showed a reduction of 27 per cent. In general, aluminum, copper and metal pigments in the bronzes reduce the heat transmission. Enamel lead paints and zinc paints almost all show no loss in heat transmission.

It is best to have all radiators painted with the same flat paint in the same tints as the walls behind them. One can see them without searching, but they do not assert themselves; and this, treatment has proved, is in every way satisfactory.

COURTESY ON FIFTH AVENUE

Hospital administrators in seeking to instill habits of courtesy in the personnel of their institutions will find that a high goal has been set for them by the Fifth Avenue Coach Company of New York. Bus drivers of this progressive transportation company have long been taught the value of courtesy as a business asset, and a

recent analysis made of their individual records shows the following interesting results:

Men courteous under all circumstances.....	98%
Men courteous under great provocation.....	1½%
Men courteous under slight provocation.....	½%

Even such a showing as the above was not satisfactory to the management and there has since been inaugurated a courtesy contest for the purpose of bringing the courtesy record up to 100 per cent.

CARE OF RUBBER WATER BOTTLES

Experts in the manufacture and sale of rubber hot water bottles say that deterioration is much more often the result of improper care than in the defectiveness of the bag. Cheap hot water bags retailed as seconds frequently last for many years while a high priced article may become dilapidated before a year has gone.

Probationers should among their earliest lessons be instructed in the care of hot water bottles. Deterioration may result from keeping the bag in too warm a place, in letting greasy substances stick to the rubber, in filling it with water which is too hot or in filling it too full. If there are defects in the rubber they will reveal themselves in a short time and reliable firms will replace the bottle.

The practice of placing a yearly guarantee on water bottles and rubber goods is manifestly unfair, according to dealers, and is being discontinued. The guarantee takes no account of the abuse to which the bottle may have been subjected. The fairest guarantee would be a broad agreement to replace the article if, upon return, it is found defective in either workmanship or material, whether the time is one, five or ten years.

WARD NO PLACE FOR GROUCH

The hospital ward is no place for the grouchy employee. In the Chicago State Hospital code, a book of instructions prepared and presented to employees, the following apt advice is given:

"Don't come on duty with a grouch. It is not the patients' fault that you have been up late the night before, have not eaten wisely, have had bad news from home or have quarreled with a friend. You are here to serve the patients and for no other reason. If you feel that you cannot do this properly or that the work is beneath you, this is exactly the time for you to seek some other employment or change your mind. This work, we know, is not all sugar and sunshine, but so long as you remain here it is work that is worth while, work that is worth an effort, and work that must be done, so: Keep a curb on your temper, soft pedal your grouch and be decent to the patients."

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of the groat
is removed—*

Digested more easily

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Purity Rolled Oats

***Totally Different******Famed for Flavor***

QUERIES AND ANSWERS

TEMPERATURE CONTROL OF HOT ROOMS

To the Editor of THE MODERN HOSPITAL:

By what means can the temperature and humidity of an incubator or hot room, designed for the occupancy of premature infants, be most satisfactorily controlled?

PEDIATRICIAN.

Such a room should have double windows and a vestibuled door. There should be an inlet for warmed air, which can be admitted by gravity and without any driving device, and there should be an exhaust ventilating duct—with which a slow running exhaust ventilating fan may be connected, if this is found to be necessary. If the highest degree of scientific construction is desired, the walls of the room may be insulated with cork. The room should be provided with a humidifying tank, in which steam coils are submerged. A thermostat and humidostat complete the outfit.

The principle of operation of the humidostat is the same as that of the thermostat, except that the thermostat contains a bimetallic strip composed of steel and brass which is affected by temperature. The strip either closes or opens a small air port, depending on whether the temperature rises or falls, and so opens or closes a steam valve, admitting steam to the radiator or excluding it therefrom.

The humidostat, instead of having a metal strip, has a wooden strip made of specially treated maple, and this wooden strip is affected by the change in humidity in the same way that the metal strip is affected by the change in temperature. The construction of the humidostat is in all respects the same as that of the thermostat; the humidostat operates a small valve which admits steam to the steam coils submerged in water in the humidifying tank. The steam passing into the coils causes an evaporation of water and increases the humidity.—S. S. GOLD-WATER, M.D.

THE CARE OF TERRAZZO FLOORS

To the Editor of THE MODERN HOSPITAL:

Can you advise me as to what is best for cleaning terrazzo floors. I have tried several things but none of them has proved satisfactory. We take great pains to clean our borders and then after a few careless moppings by the janitor we have the same dirty margin along the edge. I shall be very grateful for any suggestion toward satisfactory care of these floors

SUPERINTENDENT.

Your problem is probably one of method rather than material. The "dirty margin along the edge" which you describe is a sign of sloppy workmanship. Any employee leaving a floor in that condition should be discharged. When it is so left there is only one thing to do: get down on the hands and knees and scrub it with a powder that will cut it.

A satisfactory method of cleaning terrazzo corridors is to get a cheap form of green soap which can be ob-

tained from the manufacturer at three and one-half cents a pound. Dissolve ten quarts of this in a barrel of water, stirring it until the soap is dissolved; it will then remain in solution. Use this solution to mop with. The operator should have two pails, one containing the solution and another clean water; also a wringer and three mops, one for the solution, one for clear water, and a dry mop. The solution cleans readily but will leave a scum unless rinsed off and dried. Each cleaning generally means four operations—mopping once with the solution, mopping twice with clean water, and mopping once with a dry mop. This will leave the floor in splendid condition.

In private rooms it is better to use scrub brushes instead of mops. The solution described above may be followed up by some cleansing powder and the floor then thoroughly rinsed. Corridors should be mopped twice a day and private room floors daily.

DISH WASHING MACHINES AS STERILIZERS

To the Editor of THE MODERN HOSPITAL:

I notice in the columns of your magazine a statement regarding the sterilization of dishes used in serving typhoid patients. May I ask if some of the more modern dish washing machines do not sterilize the dishes sufficiently to remove the danger of contagion? I also notice that heavy earthenware is recommended. I have always been under the impression that vitrified china, because of its non-porous nature, was superior to earthenware and I understand vitrified ware will stand sterilization as well as earthenware.

READER.

There are no doubt on the market dish washing machines which, if used as directed, will sterilize dishes thoroughly, but the chief objection is that these infected dishes as they come from the patient are stacked up and sit around the kitchen; during this time they constitute a source of danger. The advantage of a utensil sterilizer is that dishes are put directly into it without being set on any table or other article of furniture. If the dishes were put into a dish washing machine directly as they come from the patient, a dish washer would meet all the requirements.

Your question about heavy earthenware is well taken. The word earthenware was used a little loosely; as a matter of fact most of the heavy ware used today is vitrified china. Vitrified china is very good because it stands up well both as to chipping and breakage.

RESPONSIBILITY FOR MEDICAL RECORDS

To the Editor of THE MODERN HOSPITAL:

Should not each doctor be responsible for the complete medical record of the patient and this record be left in the hospital?

A PHYSICIAN.

Yes, he should either keep it himself or see that it is done by someone else.

Nurses Have Been Quick To See the Merit of the Arch Preserver Shoe—



BECAUSE nurses know the value of working *with* Nature instead of against it in promoting health, they were quick to recognize the correctness of the Arch Preserver Shoe.

They realize that a shoe nears perfection just as it is able to offer the identical advantages of going "barefooted."

And they at once recognized all of the "barefoot" advantages in the Arch Preserver Shoe—with the added feature of style. They *must* have comfortable and healthy feet; they *want* to have well groomed feet. The Arch Preserver Shoe gives them both.



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Made with an exclusive combination leather and rubber heel; leather at front to give stability, rubber at back to cushion shocks and prevent noise.

FOREIGN CORRESPONDENCE

BRITISH PROVIDENT SCHEME FOR HOSPITAL AND MEDICAL SERVICES MEETS OPPOSITION

BY OUR LONDON CORRESPONDENT

IN THE London letter of February the British National Provident Scheme for Hospital and Medical Services was discussed and the hope expressed that it might be for the benefit of all concerned.

Since that letter was written the scheme has been subjected to very severe criticism in *Health*, the journal of the Federation of Medical and Allied Societies by a well known London surgeon, Mr. Somerville Hastings. He is of the opinion that an insidious attempt is being made to change the character of the London hospitals which are founded for the necessitous poor and convert them into nursing homes for the middle classes. He holds that the Provident Scheme is a step and a long step in this direction. He moreover goes on to say that the scheme in Brighton where it was inaugurated proved a conspicuous failure and that if a similar scheme for London is to turn out a success it will only be because preferential treatment is given to its members.

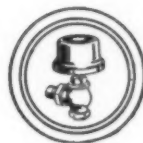
Mr. Hastings points out that already there is a real shortage of hospital beds in London, and if, a large number of people who would never pass the almoners to-day, are to be added claimants for these beds with a preferential claim it will follow that those who are too poor to become members of the scheme, the necessitous poor for whom the hospitals were founded, will never get a look in at all and the sick will be driven back on the odious Poor Law from which the hospitals have been in the past their only escape. In short it is argued that if the Provident Scheme becomes general, people who can really afford to pay for medical treatment and nursing care will be the means of ousting a poor patient who could not possibly obtain such advantages in any other way. The writer of this critical article is rather in favor of patients paying as much as they can afford while in hospitals than that the Provident Scheme should be carried into effect on a large scale.

Criticism a Trifle Hasty

In the March number of *Health*, the honorary secretary of the Sussex Provident Scheme and Dr. J. F. Gordon Dill, the initiator of the scheme, warmly defend it. Of course, Mr. Hastings should have been more sure of his facts before he rushed into print, he is mistaken as to the maximum income limit for those who desire to participate in the benefits of the scheme and makes no practical suggestion as to how the income of the hos-

pitals is to be permanently increased and the recurring annual deficit prevented. It has long been obvious that the middle classes of this country, or those with a limited income, are in a worse position so far as medical services and nursing are concerned than any group in the community. The poor have access to the hospitals and the rich can afford to enter expensive nursing homes, but the individual with a limited income can do neither and has to be content with the services of the ordinary medical practitioner, with unskilled home nursing and with the unhygienic conditions of the usual middle class home. There is no doubt that the lot of the person with limited income who meets with an accident or is sick is hard and should be alleviated, but whether the Provident Scheme will adequately and fairly overcome the difficulties has yet to be proved. It certainly savours of charity, as a great deal appears to be given or promised for a small outlay.

Would it not be better to introduce the pay system into the British hospitals, that is, each one to pay for treatment and care according to his or her means, provided always that sufficient room is found for the truly indigent. The members of approved societies can scarcely be classed as necessitous poor, and as a matter of fact, these societies are beginning to recognize their responsibilities and duties towards the hospitals and are contributing considerable amounts in return for services rendered to their members. The workmen of large industrial concerns in many parts of the country contribute a weekly sum per head to defray or to help defray the expenses of those who may require hospital medical attention and care. The plan is likely to be general throughout the country. Therefore the really indigent after all do not constitute a large proportion of the population and should be easily dealt with either as in- or out-patients of the hospitals. If paying wards were made a part of the hospital system, those with limited incomes would be able to command as skilful medical and surgical attendance and as careful nursing as hitherto has only been open to the rich and poor. When the number of beds in British hospitals is considered it is patent that a very large number of people must have received and are receiving hospital nursing treatment for nothing who were and are able to pay something; some of them able to pay well for such services. It is clear that the hospitals have been abused, in some instances



It is not a question whether a hospital can afford The Johnson Pneumatic System of Temperature Regulation. The question is can any hospital afford to be without The Johnson. There are so many serious elements in conducting a hospital which must receive Johnson Service to attain utmost efficiency, that the Johnson System should be taken for granted: on equal basis with the hospital's equipment for surgery and medicine.

JOHNSON SERVICE COMPANY, MILWAUKEE



grossly abused. By patients paying what they can afford, not only would the hospitals be placed on a sound financial basis but patients would retain their independence and self respect, and that large and deserving part of the community, those with limited incomes, would be able to enjoy the privileges of proper medical treatment and nursing which have been denied them up to the present time.

Societies Should Contribute to Hospitals

Undoubtedly there are other sides to the question. The character of the hospitals would be greatly altered. However, these institutions are in such desperate straits that only desperate remedies will avail. Showing which way the wind is blowing is a scheme of home nursing which has just been provided by the approved societies. It has been stated recently by an authority that if an approved society has funds on which it can draw to provide its members with the skilled service of the district nurse, it is false economy to abstain from doing so. The members of approved societies are beginning to realize this fact. The approved societies have a disposable surplus of £9,000,000 (\$45,000,000), largely due to war casualties, which has so improved their financial position that it brought them to a sense of this realization. Many of these societies now provide home nursing and it seems more than likely that in the not far distant future they will all contribute to the hospitals, recognizing that in grave diseases and serious accidents the hospital is the one place in which skilled medical service and careful nursing can be obtained, and that it would be a calamity for the entire community, including the members of the approved societies, if the hospitals were allowed to close their doors or to lapse from their high standard. Indeed hospitals are more greatly needed than ever before and as time goes on will be more and more in request.

The Provident Scheme in any event will not go far in solving the hospital problem and should be analyzed closely before it is adopted on a wide scale. The best that can be said of it is that it is on trial.

THE PERSONALITY OF A HOSPITAL

The Massachusetts General Hospital is 100 years old, a tender age considering the generations man has inhabited the region about Boston. The Indians of Massachusetts had sickness in their tribes, but no hospitals; their predecessors, whoever they were, had disease, but no hospitals. It required a stable government and high-minded men with an insatiable desire for service to their fellow men, before the old Bulfinch building could rise above the sick of Boston. Warren and Jackson, founders of the Massachusetts General Hospital, were such men. Their ideals of service and their devotion gave an impetus to the new organization that carried it honorably through one century. The Bigelow, Shattucks, Cabots, Cushing and others have kept those ideals living, and have seen them grow until rooted in every department of the much larger and older organization. The development of the personality of Massachusetts General is an interesting story, as told by Dr. Harvey Cushing in his "Ether Day" address on the seventy-fifth anniversary of that great discovery. "Like an old wine," he said, "it has acquired a certain quality which only comes with age, and a new institution cannot imitate, for it represents the fusion of the countless personalities of all those who have worked for it or in it, no matter how lowly. * * * Anesthesia christened by

Holmes, litholapaxy by Bigelow, appendicitis by Fitz, are three unquestioned offspring of the Massachusetts General Hospital." Credit is given to the humbler servants as well as to those medical men whose work helped to make the institution so well known: the faithful Hugh McGee, who served for fifty years, and James Mains, with his parkinsonian tremor, who was the mainstay of the Bigelow amphitheater for nearly as long. Then there was Barry, inimitable mimic of surgeons who had gone before, Pipper the night orderly, "Outpatient" John, and Louis Brown, who first came a boy with osteomyelitis, and died in the hospital thirty days later from complications of his old malady, meanwhile having become, a photomicrographic expert, a most useful and loyal servant of the hospital. Distinguished organizations devoted to the sick are too few in number. Age is not absolutely necessary, but character, skill and co-operation are indispensable.—*Jour. A. M. A.*, April 8, 1922.

BOOKS RECEIVED

MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS FOR NURSES. Outlines of Internal Medicine for the Use of Nurses and Junior Medical Students. By Clifford Bailey Farr, A.M., M.D., Professor of Gastro-Enterology, Graduate School of Medicine and Associate in Medical Department University of Pennsylvania. Third and revised edition. Lea and Febiger, Philadelphia and New York, 1920.

APPLIED PSYCHOLOGY FOR NURSES. A Textbook of Simple Nursing Procedure for Use in High Schools, together with instruction for first aid in emergencies. By Amy E. Pope, formerly instructor in the School of Nursing, Presbyterian Hospital, New York. G. P. Putnam's Sons, New York and London, 1921.

TYPHUS FEVER WITH PARTICULAR REFERENCE TO THE SERBIAN EPIDEMIC. By Richard P. Strong, M.D., S.D., Director of the American Red Cross and International Sanitary Commission to Serbia, Professor of Tropical Medicine, Harvard University Medical School; George C. Shattuck, A.M., M.D., Member of the Red Cross Sanitary Commission to Serbia, General Medical Secretary, League of Red Cross Societies; Hans Zinsser, M.D., Bacteriologist of the American Red Cross Sanitary Commission to Serbia, Professor of Bacteriology, Columbia University; A. W. Sellards, A.M., M.D., Member of the American Red Cross Sanitary Commission to Serbia, Assistant Professor of Tropical Medicine, Harvard University Medical School; J. Gardner Hopkins, M.D., Bacteriologist of the American Red Cross Sanitary Commission to Serbia. Published by the American Red Cross at the Harvard University Press, Cambridge, Mass., 1920.

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